Industrial Heat Recovery . . . . . Pg. 6

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Silver Shield Cities Rise 78% In Year

35 Areas Have Bureaus In Action or Forming

CLEVELAND — Indoor Comfort Bureaus to provide technical training, cooperative promotion programs, and Silver Shield certification are now in operation or in the process of being launched in 35 cities located in 20 states, according to the National Warm Air Heating & Air Conditioning Association.

This is an increase of 78% in Silver Shield cities during the past 12 months.

Thirteen are now licensed and several more will be licensed when their preparatory work is completed in the early fall.

Bureaus formed during the first six months of 1961 include Omaha, Neb.; Atlanta; Kansas City, Mo.; Burlington, N. C.; Columbus, Ohio; Evansville, Ind.; Hartford, Conn.; Greensboro, N. C. (including the Winston-Salem, High Point, and Ashboro areas); Shreveport, La.; Pocatello, Id.; Billings, Mont.; Guilford County, N. C.; Martinsville, Va.; and Long Island, N. Y.

Preliminary meetings preparatory to formation of Indoor Comfort Bureaus have been held

(Continued on Page 27, Col. 5)

Noise Problem

Detroit Considers Action on Home Units

By Phil B. Redeker

DETROIT—Attention of public officials is apparently now more than ever being focused on a problem which has been receiving increased attention from the industry itself—noise produced in the operation of air conditioning systems.

As reported some weeks ago in the NEWS, the city of Cincinnati has tentatively established a noise level beyond which a residential outdoor air conditioning condensing unit could be ruled a nuisance, and representatives of the industry in that city have been given a deadline for the presentation of data aimed at rescinding or modifying such proposed regulations.

Now Detroit officials are taking a keen interest in the matter of noise produced by air conditioners, and there is some feeling that another Summer may not pass by without the introduction of a city ordinance which would establish noise level standards in residential areas. And in some Milwaukee suburban areas officials have indicated that some action may be taken on this matter before the end of the summer.

In Detroit, the official concern with "noise as a possible public nuisance factor" comes through the Air Pollution Control Bureau of the Dept. of Buildings & Safety Engineering.

"In the past couple of sum-

(Continued on Back Page, Col. 1)

Mfr. Sales Of Unitary Cooling Up

First Quarter Shipments Hit 77,551—Up 23%

WASHINGTON, D. C.—Manufacturers' shipments of unitary air conditioners, including heat pumps, in the first quarter of 1961 totaled 77,551 units, a gain of 23% over the 62,856 units shipped in the first quarter of 1960, the Air-Conditioning & Refrigeration Institute reported.

Total shipments for 1960 were only about 9% above total 1959 figures, and first quarter 1960 shipments were about 10% above the same period of 1959, the ARI noted.

The figures released by ARI cover all unitary equipment, but do not include window or wall units.

Heat pump shipments in the first quarter of 1961 totaled 12,160 units, a gain of almost 60% over the same period in the previous year. Self-contained heat pumps accounted for 8,200 units of the 1961 total.

A summary of shipments by types and sizes (capacity) is on page 27.

440 Zonal Heat Pumps In Operation To Condition Atlanta's Merchandise Mart

ATLANTA — What is being hailed as the start of a new era in big-building air conditioning comes into being July 17 here with the formal opening of the new $15 million, all-electric Atlanta Merchandise Mart, largest commercial building in the South, which will be air conditioned entirely by year-round multiple, zonal heat pump air conditioners.

A total of 440 Fedders "Adaptomatic" heat pumps have been installed around the perimeter of each floor of the 23-story, million sq ft mart, which has 440-odd showrooms and 3½ miles of corridors.

According to John C. Portman, Jr., architect and president of the mart, aim of the building design was to achieve total environmental control, including lighting, heating, cooling, and ventilation.

Tests and studies were conducted on various types of systems, with reference to cooling and heating performance, humidity control, quietness, flexibility in operation, and air circulation, mart officials stated. Upon completion of the tests, it was felt that the installation of the heat pump units would come closest to meeting all the desired requirements for the 400 and more showrooms.

Cost of the installation was considerably below the usual cost of big-building air condi-

(Continued on Page 4, Col. 5)

Dallas-Ft. Worth Sales Strong as June Ends

Sales of unitary air conditioners (other than room units) in the Dallas-Ft. Worth area showed good strength in the last week of June, according to reports made by air conditioning dealer-contractors.

While the total of 112 central residential air conditioning units sold in the area was considerably below the weekly record for the year of 168 units sold in the previous week, it still represented one of the highest totals for the year.

The 25 unitary air conditioners sold for commercial applications in the week ended July 1 was better than the number reported in the previous week, and for a number of weeks prior to that.

This resume of sales in the Dallas-Ft. Worth area was made possible through figures submitted by Dallas Power & Light Co. and Texas Electric Service Co., Ft. Worth Div.

Residential

Week (Ends)	No. Jobs	Total Tons
July 1	112	304

Commercial

Week (Ends)	No. Jobs	Total Tons
July 1	32	216.5

NWAHACA Plans Research In Mild Climate

SAN FRANCISCO—Research for west coast mild climate heating and cooling systems has been set up with San Jose State college by the newly-appointed Western Research Committee of the National Warm Air Heating & Air Conditioning Association.

Under the floor plenum is included because of its extensive use in the Fresno area and Sacramento area. The Research Advisory Council of NWAHACA feels this should be explored since there is a lack of research data on crawl space plenum cooling.

San Jose State college, under the direction of Prof. S. Brooks Walton, head of the Mechanical Engineering Dept., is determining how the testing shall be done, and firming up what the tests will be, in order to arrive at a result which is not prejudiced.

The college is responsible for

(Continued on Page 27, Col. 3)

Gas Heating Sales Up In May—GAMA

NEW YORK CITY—Manufacturer shipments of residential gas furnaces and boilers during May totaled 79,520 units, a gain of 4.7% over the number shipped in the same month of last year, the Gas Appliance Manufacturers Association reported.

Producers of gas furnaces, including forced warm air and gravity types, sent 68,600 units to market during the month,

(Continued on Page 27, Col. 1)

Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Plug for Mary Sullivan

U. S. Chamber of Commerce has been conducting "political seminars for businessmen" all over the country for quite awhile.

Idea: to show corporate officials how to get into politics at the local level effectively. *Reason:* politics has invaded business in a big way, so why shouldn't businessfolk do some politicking?

Although the corporation which publishes the NEWS hasn't done anything about this formally, we are proud to report that two of our employes, Terry Treiber and Mary Sullivan, are active campaigners.

Last fall both Terry (Republican) and Mary (Democrat) spent their nights ringing doorbells, handing out literature, and proselyting for their candidates.

And currently Mary Sullivan (who majored in Political Science at the University of Michigan) is a candidate from the third district to be a delegate to Michigan's Constitutional Convention (known locally as "concon").

Mary is quite a formidable young woman in debate; and we predict that, if elected, she will be a force in this convention. Purpose of the latter: to update Michigan's hoary old Constitution.

Hear ye, all voters in the third district!

Whimsy from Win Schuler

One of the most remarkable success stories of this or any other age is that of Win Schuler, restaurateur in Marshall, Michigan.

Marshall is a hundred miles from nowhere. It's a hamlet which time passed by long ago.

Yet, citizens from all over the world make pilgrimages to

(Continued on Page 12, Col. 1)

So. California Drive On School Cooling Underway

LOS ANGELES — A specific program of education and promotion aimed at obtaining construction of new schools on a "compact" basis with year-round environmental temperature control is the objective of a new program launched recently by the air conditioning industry in southern California.

The program, given its original impetus by a committee of the Refrigeration & Air Conditioning Contractors Assn. of Southern California (as reported

(Continued on Page 4, Col. 1)

Death Notices

Joseph I. Morrison

CHICAGO—Joseph I. Morrison, 65, founder and president of The King Zeero Co. here, manufacturer of refrigerating equipment, died suddenly from a heart attack aboard his yacht in the port of Norfolk, Va. enroute from Fort Lauderdale, Fla., to New York City on June 23.

Morrison was engaged in the refrigerating business for over 35 years and held many patents on "Ice Builders" and other equipment he designed.

Wm. F. Fleischer

TARRYTOWN, N. Y. — William F. Fleischer, 44, president of the Air Way Conditioning Corp., Yonkers, died recently in Phelps Memorial hospital.

Hercules Directors OK Sale to Hupp

CLEVELAND — Directors of Hercules Motors Corp., Canton, Ohio, have unanimously voted to sell assets of Hercules to Hupp Corp.

Under terms of the agreement announced by Henry H. Timken, Jr., Hercules chairman and John O. Ekblom, chairman of Hupp, 2½ shares of Hupp common stock will be exchanged for each share of Hercules common stock, it was explained.

The sale will be presented for approval to a special meeting of Hercules stockholders. Approval by Hupp stockholders is not required.

Hercules is said to be one of the nation's largest independent producers of diesel, gas, gasoline, and liquefied petroleum gas engines for civilian and military markets.

Stewart-Warner Gets Armed Forces Orders

LEBANON, Ind. — Stewart-Warner Heating & Air Conditioning Div. announced that it will furnish 500 gas furnaces and 500 3-hp air conditioners for the Charleston (S. C.) Naval Station.

The Kelly Air Force Base at San Antonio, Texas, has recently ordered 467 2-hp air conditioners, 60 3-hp units, and seven 4-hp units from the Stewart-Warner division.

The total of 1,034 air conditioning units for both of the military bases are remote condenser systems.

Cool Arcade-Like Mall

PONTIAC, Mich.—An air conditioned, arcade-like mall will be a feature of the Pontiac Mall Shopping Center being constructed here.

May Distributor Sales of Conditioners Up In St. Louis; Phila., Cleveland Down

DETROIT—Distributor sales of air conditioners in May were ahead of the previous May in the St. Louis area but they declined in the Philadelphia and Cleveland areas, according to utility and association reports.

The reports also showed May air conditioner sales trailed year-ago levels in the St. Petersburg, Fla., area and in southwest Pennsylvania.

Union Electric Co., St. Louis, reported that May shipments of air conditioners in its service area by 11 appliance distributors rose to 1,666 from 1,485 in the same month last year, a gain of 12.2%.

For the first five months of 1961, shipments totaled 7,798, an increase of 20% compared with the 6,499 units shipped in the like period of 1960. Only two other items—garbage disposers and color TV — were ahead of last year for this period.

In the five-county Philadelphia area, distributor sales of room air conditioners dropped to 5,570 in May from 9,511 a year earlier. Of the May, 1961, total, 4,431 units went to dealers and 1,139 to builders.

For the January-May period, the distributors sold 28,460 units to dealers and 2,199 to builders for a total of 30,659. This compares with 36,229 sold in the corresponding period of 1960.

Statistics compiled by the Electrical League of Cleveland showed that distributor shipments of room air conditioners in Cuyahoga County, reported by league members, were off 51% in May from a year earlier and down 31% for the first five months. Shipments of central residential systems were down 53% for the month and 47% for the January-May period.

Room cooler shipments in May in the Cleveland area totaled 745 against 1,529 a year ago. For the first five months, the totals were 2,459 and 3,559. Shipments of central residential systems dropped to 27 in May from 58 and to 108 in the January-May period from 205.

According to a report from Florida Power Corp., St. Petersburg, on heat pump and air conditioner sales in its territory, May sales declined to 1,434 units from 1,659 in May, 1960. However, sales for the first five months were 5.1% ahead of the like 1960 period, totaling 4,928 against 4,691.

Dealer sales of room coolers in the southwest area of Pennsylvania served by West Penn Power Co. were off sharply in May and the first five months from like year-ago periods. May sales dropped to 190 from 383. The January-May total was 343 compared with 768.

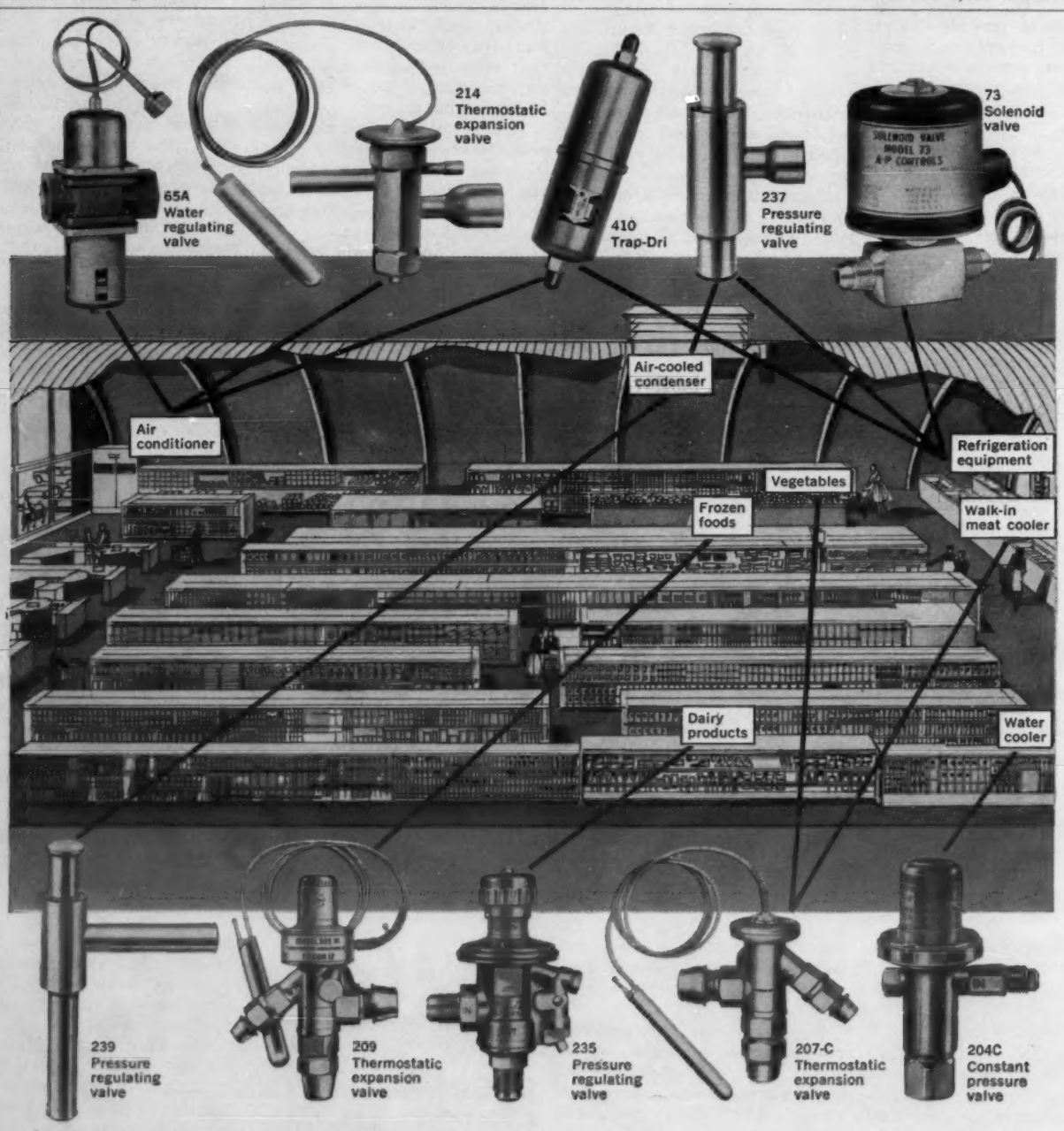
Electric Power Board of Chattanooga reported that dealers in its area sold 438 air conditioning units (including two central units) and 24 heat pumps for residential use, and 49 cooling devices and air conditioning units for commercial applications in May. No comparative figures were given.

Room Unit Shipments For May Hit 241,700
NEMA Estimates

NEW YORK CITY—The National Electrical Manufacturers Association estimated that total industry sales by manufacturers of room air conditioners in May amounted to 241,700 units, compared to 254,000 in the same month of 1960.

However, sales for the first five months of this year were ahead of the like 1960 period, totaling 966,000 against 922,400.

The figures are based upon expansion of data reported to the NEMA Statistical Dept. to cover total industry sales including exports.



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N. Y. Investigation Finds

Some Contractors 'Slipshod, Careless Of Contract Requirements' on Schools

NEW YORK CITY—Charges that some contractors working on New York City school buildings in recent years were "hasty, slipshod, and careless of contract requirements and specifications in degrees ranging from callous indifference to virtual fraud" were made here recently by Goodman A. Sarachan, chairman of the New York state investigation commission.

Sarachan made his charges in a report issued after six days of public hearings and a "thorough and careful" investigation of how the city board of education has been constructing and maintaining school buildings.

In addition to the way contractors have executed their contracts, Sarachan cited three other major areas where the school program was "woefully deficient" and in compelling need of corrective action.

They are improprieties in the selection and supervision of architects which have resulted, in certain instances, in faulty plans and design; supervision of construction by board of education personnel in "a sorry atmosphere of corruption and hand-outs;" and almost complete lack of follow-up by board officials.

"It should not be necessary," Sarachan's report said, "to recount the long and dreary list of conditions of waste and hazard. Cinder blocks and rubble falling into the seats in many classrooms, cracked walls, leaky roofs, loose brick, toppling copings, children trapped in classrooms because of defective locks and doors, explosive boilers—all these and more built into new and expensive buildings.

"A sad picture of bungling waste is clearly painted by the ludicrous installation of an antiquated, inaccessible air conditioner in a new school that cannot be used and never has been used."

The "air conditioner" referred to was a large ice chest. The school custodian testified that it had never been used because the board of education would not authorize any funds for ice.

Sarachan's report stated, "While neglect, incompetence, and inefficiency were contributing factors, we must conclude that these conditions also resulted from a long existing system of pay-offs, gifts, shakedowns, and conflicting interests on the part of board employes."

One school official, Mario V. Ammirati, an assistant mechanical engineer in charge of processing change orders by heating and ventilation and plumbing and drainage contractors, was suspended for allegedly shaking down contractors. He violently denied such allegations to the commission.

In his position, Ammirati recommended the amount of money to be paid for work performed under change orders. Contractors testifying to the commission reportedly accused him of charging them a 5% fee for expediting their claims. Ammirati denied this.

Following a special, closed meeting of the state investigation commission, Sarachan said copies of the transcript of the public hearings would be sent to District Attorneys Frank S. Hogan of New York County and Frank D. O'Connor of Queens so they might decide if the testimony indicated law violations.

He indicated that possible violations concerned perjury and giving and receiving gifts and gratuities. A full report of the commission's findings is expected to be ready in October.

Later, on a TV program, Sarachan asserted that the commission had discovered a "wide variety of payoffs and bribery" in every New York City department it had investigated.

York To Expand Research Facilities

YORK, Pa.—More than $500,000 will be spent during the next few months in expanding the engineering research and testing facilities at the York Div. of Borg-Warner Corp., according to President Joseph B. Elliott.

Contract for the design and construction of the new facility immediately adjoining the existing engineering research and testing buildings on Richland Ave. has been awarded to R. S. Noonan, Inc., York engineer and contractor. Completion is scheduled for early fall.

The new building will have a floor area approximately three-fourths that of the existing engineering lab but will be higher to permit a future second floor.

Gas Pavilion Planned for 1964-65 World's Fair

ARTIST'S RENDERING of gas industry building design for New York 1964-65 World's Fair is shown here by Stanley B. Finch, executive secretary of Gas, Inc. The structure will feature world's longest "air curtain wall" to keep out inclement weather and "contain" interior gas air conditioning. The air curtain and strategically placed plexiglass panels will combine to give still-supported roof appearance of floating in mid-air. A public restaurant (right), capable of serving 200 at a time, will be part of the $6,000,000 exhibit to be financed by all segments of the gas industry—utilities, including pipeline companies, appliance and equipment manufacturers, gas producing companies and bottled gas distributors. Gas, Inc. has been established to plan, build, and operate the gas pavilion.

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So. Calif. School Cooling Drive--

(Continued from Page 1, Col. 4)

earlier this year in the NEWS), is being coordinated by the industry's Certified Refrigeration & Air Conditioning Foundation (CRAC). The program is based on the premise that new schools contemplated for the southern California area, particularly at the secondary level, can be compactly designed with air conditioning for the same or less cost than the conventional campus or finger-type schools.

Benefits of Compact Design

According to Ira Fulmor, who is serving as chairman of the CRAC information program, the compact school concept offers a means of providing greater benefits for school districts and students alike in that savings can be effected in land and maintenance costs, while at the same time providing better facilities for student learning.

A special meeting was held to "kick off" the educational and promotional meeting. In attendance were civic and trade representatives interested in the school construction field.

Principal speaker at the meeting was Maurice Wilson of Carrier Air Conditioning Co., who reported that re-design of schools to include air conditioning is being viewed by many educators as one approach for increasing the "take-home" knowledge of students.

Wilson, who has made an intensive study of school air conditioning requirements across the country, pointed out that many school boards are faced with the possibility of a 12-month educational program because of the exploding enrollment rate. "This is particularly true of the Los Angeles area where school authorities must provide a new 14-room elementary school every Monday morning," said Wilson.

Emphasizing that the compact school approach could help to solve the situation without greater expenditures by local school districts, Wilson said that instead of the present finger-type schools with their considerable sections of glass and classroom window areas, the schools of the future can achieve cost savings by being planned in a single air conditioned building of rectangular design with modular classrooms and virtually devoid of window areas.

Examples Cited

Citing examples of what steps were being taken by other areas to provide better facilities for school needs, Wilson told of a secondary school in Houston which was designed and built along the compact concept. At the same time it was being constructed a comparison study was made of the cost of constructing the same school in a conventional manner. The comparison of the two disclosed that a cost savings of $580,877 was effected by the compactly designed school with full 12-month environmental climate control.

Attending the introductory conference from the greater Los Angeles area were Clarence Wapner, president of the school building division of the Building Contractors Assn.; Walter Lindsay, chairman of the Los Angeles Chamber of Commerce Construction Industries Committee; D. A. Henderson, secretary of the Los Angeles Chamber of Commerce Construction Industries Committee and Engineers and Architects Committee; Ralph M. Westcott, chairman of the Chamber's Engineers and Architects Committee; Wade Perong, board member of the Associated General Contractors; John Perkins of Balch, Henderson, Perkins, architectural firm of Los Angeles; and representatives from the air conditioning industry.

Further plans for the school air conditioning program by the CRAC Foundation call for the presentation of the program to educational leaders, architects, and members of community groups or organizations.

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Atlanta Mart--

(Continued from Page 1, Col. 4)

tioning that runs between 14 and 18% of construction costs, Portman pointed out. In addition to cost savings in materials and various types of components, other cost savings of considerable magnitude were realized through the reduction in engineering man hours, and through the simplified structural design of the building made possible with the use of the heat pumps.

Performance Requirements

The mart architects calculated the performance requirements at 15,500,000 Btuh of cooling, 15,950,000 Btuh of reverse cycle heat, and 1,020,000 Btuh of resistance heat, with air circulation requirements at 594,000 cfm.

The Adaptomatic unit used in the Atlanta mart are standard 3-hp. models, installed 13 in. from grille-covered wall openings. A 9-in. deep plenum and three 4-in. canvass connections complete the installation.

For this installation, the mechanical consultants designed a special louvered intake and discharge plenum for condenser and outside air. Two side cover panels, 4 in. wide, were also specially designed. One panel covers condensate drains and electrical wiring connected to boxed risers and the other panel houses a controlled fresh air intake. Decorative supply and return diffuser plenums are provided.

Designed to accommodate as much as 15 kw of electrical resistance heating, the mart Adaptomatics employ 5 kw heaters where specified. A factory wired low-voltage control panel has been furnished with each unit as standard equipment.

'Represents Milestone'

Claude C. Kirk, national sales manager of the Fedders central air conditioning department, sees the Atlanta Merchandise Mart representing a milestone in large-scale commercial air conditioning.

"We are highly gratified with this installation, not merely because it is a big job for Fedders, but because it demonstrates concretely what we have been saying for some time, that large-tonnage building air conditioning with multiple zonal heat pumps is not only feasible and practical, but highly desirable in many specific jobs.

"The use of zonal heat pumps can also be more efficient because there are no capacity losses due to duct resistance pressure which can only be estimated in the conventional big-building central system."

Ling-Temco, Vought Merger Announced

DALLAS — Stockholders of Ling-Temco Electronics, Inc., and Chance Vought Corp., in separate special meetings, approved combination of the businesses of the two companies into Ling-Temco-Vought, Inc., effective Aug. 31, 1961.

The agreement provides for the transfer of Chance Vought assets and properties to Ling-Temco in exchange for convertible debentures and stock purchase warrants. CVC will be immediately re-established as a new Chance Vought Corp., the aerospace subsidiary of Ling-Temco-Vought, Inc.

Ling-Temco-Vought, Inc., will have headquarters at 9314 West Jefferson, Dallas (mailing address P. O. Box 5003, Dallas 22, Texas) where main production units of CVC and Temco, a subsidiary of LTE, have been located for many years.

In January of this year, Ling-Temco Electronics acquired Ed Friedrich, Inc., and its wholly-owned subsidiary, Friedrich Refrigerators, Inc.

Robertshaw-Fulton Buys Lux Clock

WATERBURY, Conn.—Stockholders of Lux Clock Mfg. Co., Inc., voted at a meeting here, to approve a plan of reorganization which provides for the sale of their company to Robertshaw-Fulton Controls Co.

The basis of the transaction is the exchange of one share of Robertshaw-Fulton common stock for two shares of Lux stock. Involved in the plan is a total of 52,500 Robertshaw-Fulton shares.

Thomas T. Arden, president of Robertshaw-Fulton, stated following the Lux stockholders' action that upon consummation of the transfer of assets on July 17, the Lux organization began operating under present Lux management as the Lux Time Div. of Robertshaw-Fulton.

Commercial Filters, RAD Plan Merger

CINCINNATI — Merger of a Cincinnati research and development firm, RAD, Inc., with Commercial Filters Corp., Melrose, Mass., through an exchange of stock has been recommended by directors of both firms.

Announcement of the proposed merger, which now requires stockholder approval, was made by F. William Harder, chairman of the board of Commercial Filters, and Michael F. Schaible, president of RAD.

It is contemplated that Schaible, who is sole stockholder of RAD, will become president and chief executive officer of the surviving company, Commercial Filters, succeeding Robert L. Fielding, who will remain as vice chairman of the board.

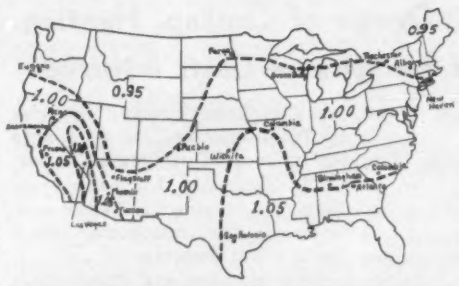
Commercial Filters produces filters for liquids and gases used in aircraft, missile, chemical, petroleum, nuclear energy, Diesel engine, drug, food, and other industries.

Form Helps Estimate Cooling Load of Room

NEW YORK CITY — Guess work by electrical appliance dealers in estimating cooling load requirements of room air conditioner customers can be eliminated through the use of a proven cooling load estimate form newly developed by the Room Air Conditioner Section of the National Electrical Manufacturers Association, according to member companies of the section.

"The room air conditioner unit or units having a cooling capacity rating which comes closest to matching the total cooling load determined on the form will give the best results," it was pointed out in the announcement.

"Cooling capacity ratings of room air conditioners are determined in accordance with the NEMA Standards Publication for Room Air Conditioners, CN 1-1960.



COOLING LOAD ESTIMATE FORM developed by NEMA's Room Air Conditioner Section includes this map. User multiplies sub-total by the proper correction factor, selected from the map, for the particular locality. The result is the total estimated design cooling load in Btuh.

"The new form has been in the process of development for several years and contains all of the factors considered necessary to determine total cooling loads—Btu per hour.

"Included in the formula are data concerning size, location, and number of windows; feet of wall space; insulation; number of occupants; doors and arches continuously open to unconditioned space; lights and electrical equipment in use, as well as other vital factors. The form also includes a map giving climatic differences in all sections of the country."

Forms come in pads of 50 with detailed instructions for use. They are available at 50 cents per pad, plus postage, from the NEMA Room Air Conditioner Section, National Electrical Manufacturers Association, 155 East 44th St., New York 17, N. Y.

Hi-Press Net Income 400% Above '60 Period

NEW YORK CITY—Hi-Press Air Conditioning of America, Inc., reported net income for the six-month period ending April 10 to be 400% of the comparable 1960 period.

Net income for the six months totalled $73,714 as compared with $18,875 for the corresponding period a year ago, and sales aggregated $1,768,878 as compared to $452,793 a year earlier.

Current sales of the Drayer-Hanson Div., acquired from the Crane Co. in December, 1960, are running at the rate of 142% of the prior fiscal period, it was stated.

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The one complete line of refrigerant controls: Thermostatic Expansion Valves. Refrigerant Distributors. Solenoid Valves Refrigerant Filter-Driers. Suction Line Regulators. Flooded Evaporator Controls and Reversing Valves

Industrial Heat Recovery

Has Become Major Consideration In Design of Cooling, Heating, And Ventilating Systems Because of Tremendous Costs Involved

DENVER—"The heating, air tempering, and air conditioning loads in the modern industrial plant have become enormous. Many plants are completely air conditioned. In others the makeup air requirements may exceed five million cfm. The operating costs alone for such systems may exceed a half million dollars annually.

"In addition, the requirements for the initial equipment may be very expensive. It is of great importance that these equipment and operating costs be kept to a minimum by all practical means of heat recovery and conservation.

"A number of methods are available for this purpose. These are as follows:

"For Air Conditioning and Cooling Installations:

"1. Improve the building design. Insulate, vapor proof, reduce infiltration, and reduce glass areas.

"2. Improve process and equipment design to reduce heat release. Insulate hot equipment and piping.

"3. Recirculate air whenever possible. Filter and purify as necessary, and where permitted.

"4. Reduce makeup air requirements by careful design of hoods and other equipment requiring air. Bring uncooled air directly to the hoods and processes requiring makeup air. Use air from adjoining cooled spaces for makeup. Downgrade the air.

"5. Operate for economy. Keep the outside air to the systems to the minimum. Shut down when possible.

"For Heating and Makeup Air Tempering:

"1. Reduce the makeup air requirements by careful design of hoods and other equipment requiring air. Whenever possible, bring in raw air directly to the hoods or process requiring the air.

"2. Mix the supply air with hot building air.

"3. Pass the supply air through a heat exchanger to recover process, equipment, or engine heat. Exchangers may be hot air to air, hot gas to air, or hot liquid to air.

"4. Heat the air by cooling process or other equipment.

"5. Recirculate air whenever possible. Filter and purify where practical and where permitted. Downgrade the air—use from adjacent areas whenever possible.

"6. Operate for economy. Keep the supply air and the supply air temperatures to the minimum. Shut the systems down whenever it is safe and practical to do so.

Rule of Thumb Engineering Has No Place Today

"Rule of thumb engineering has no place in the design of modern plants. It is far too costly. Doubling the air volumes, just to be sure, can be a costly approach, also. The time spent on good sound engineering will return good dividends in economy."

* * *

The above-quoted material was the statement of the premise for the open forum on "Industrial Heat Recovery" held during the recent annual ASHRAE convention. (An "open forum" is one in which discussion at the forum may be reported.) From the discussions on this premise, based on experience of engineers and contractors, it is evident that in the past few years, industrial heat recovery has become a major consideration in the design of air conditioning, heating, and ventilating systems for industrial plants.

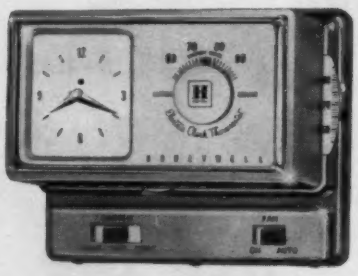
Originally, the only consideration was to try to get rid of any heat produced by production machinery greater than the floor-level ambient, by the cheapest means possible. Eventually, some designers and plant engineers got around to making some use of this waste heat to temper the air in the immediate vicinity of its production.

More recently, systems have been installed which through the use of "run-around" duct systems and/or indirect heat exchangers, make use of the excess heat to heat remote areas.

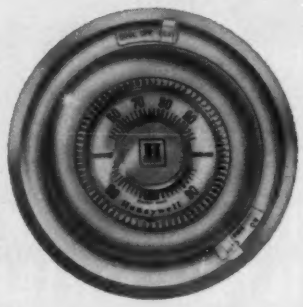
Recovering 'Dirty' Air

Until quite recently, little effort was made to devise any heat recovery methods where "dirty" or contaminated air was produced by the heating process. However, improved filtering methods and the use of such air purifying and recovery devices as catalytic combustion chambers have made it both feasible and economical to use "dirty air" in industrial heat recovery work.

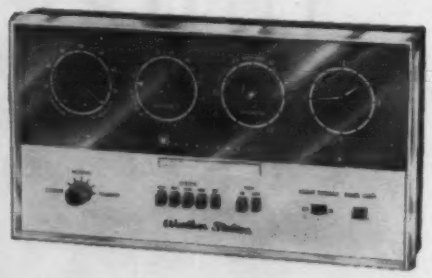
Savings in first and operating costs of a high magnitude are possible with heat recovery systems, it was pointed out, running as high as $40,000 to $50,000 a year. Nature of some of the industrial heat recovery systems in industrial plants was outlined by Robert G. Werden, Valley Engineering Associates, Glenside, Pa., who has made feasibility studies and guided the



On every service call . . .
SELL-UP to the Honeywell
Electric Clock Thermostat



On every modernization job . . .
SELL-UP to the Honeywell
Year-Round Thermostat



For all quality new construction . . .
SELL-UP to the Honeywell
Weather Station

For all heat pump installations . . .
SELL-UP to the Honeywell
Indoor-Outdoor Control System

MAKE EVERY AIR CONDITIONING CALL PAY—

Sell UP!

Honeywell
First in Control
SINCE 1885

Pacific Metals Co. Plans New Building

SAN FRANCISCO — Walter Schroeder, president, Pacific Metals Co., Ltd., refrigeration, air conditioning, and heating equipment and supplies wholesaler, announced that his firm has acquired 5½ acres of land at 939 South 6th West, Salt Lake City, and will begin immediately construction of new facilities.

Pameco also operates warehouses in San Francisco, Los Angeles, and San Diego, Calif. and in Phoenix, Ariz., the latter two opened in April of this year. Its present Salt Lake City facilities are at 261 West 5th South.

The new 45,000-sq ft Salt Lake facility will cost $500,000. Office sales and display areas will be air conditioned.

J. R. Jones, vice president in charge of the Intermountain District, noted that his firm has served the district since 1944. engineering work on such systems.

He cited a vinyl plastics plant as an example of where 25,000 cfm of recovery air was used to

pre-heat air used in the plant's heating system. A lithography plant was cited as an example of how noxious, "dirty" air can be converted into a usable heat source.

Air from the lithography plant dryers, after treatment in an oxy-catalytic burner, provide a heat source with a 730°F potential, it was pointed out. A problem in an application such as this is developing the proper way to "knock down" this potential to something that can be properly applied. This involves the use of possibly some especially designed heat exchangers, since the conventional brazed-type coil construction might not hold up under the conditions which would be encountered.

Catalytic Combustion Provide Another Heat Recovery Source

As state and municipal regulations on air purification become more stringent, more catalytic combustion burners will be required, and this will open the way to more opportunities for industrial heat recovery. While air purification will be a first consideration, the heat recovered may in turn pay for the cost of the purification equipment.

The question was raised as to the probable first cost of treating 15,000 cfm of noxious or "bad" air through use of a catalytic burner and then making it available for tempering or direct heating through a special heat exchanger. One estimate was that this might run as high as $50,000, but that the heat recovered would be great enough to use the 15,000 cfm in a full heating cycle.

In certain plants that have a primary problem in dust-producing operations, where this dust-laden heated air was exhausted to the outside, it has been demonstrated that through the installation or more elaborate air filtering and air handling equipment, making use of this exhaust air, the owning and operating cost for 20,000 to 25,000 cfm heating plant could be reduced two thirds.

Also mentioned was a feasibility study that indicated that in a shopping center incinerator heat could be used to balance fresh air requirements in the heating phase of a year-round air conditioning system.

In industrial heat recovery systems generally, the principal problems are control cycles and design that will provide a 24-hour 12-months' heat balance.

Clyde Juneau Enters Business In Shreveport

SHREVEPORT, La. — Clyde Juneau, air conditioning and heating inspector for the City of Shreveport since 1955, has entered private business with the formation of Clyde Juneau Air Conditioning, Heating, Refrigeration.

Juneau announced that he will specialize in the diagnosis, repair, alteration, and custom design installation of air conditioning, heating, and commercial refrigeration equipment.

He said he will also offer mechancial inspection service, and will test, balance, and/or adjust new or existing systems.

Juneau's address is 2528 Westover Rd. here.

Sept. 25-28

Cooling, Heating To Be Discussed, Shown Industrial Building Exposition & Congress

NEW YORK CITY—Heating and air conditioning equipment will be discussed and exhibited during the Industrial Building Exposition & Congress at the New York Coliseum, Sept. 25-28.

The twin events, held for the first time last December, are designed as a primary source of information for problems involving industrial construction. Both are produced by Clapp & Poliak, Inc., exposition management firm, 341 Madison Ave., New York City 17, according to the announcement.

"The congress covers virtually every aspect of new building and modernization," it was stated, "beginning with site selection, and going through the various stages of evaluating contracts, financing, foreign construction, heating and air conditioning, selection of architect and builder, lighting, costs, providing for expansion, and developments in construction methods and materials, among other topics."

One of the subjects listed is "Current Practices In Heating, Ventilating and Cooling In Modern Plants." This will be discussed by Russell F. Stem, associated, Smith, Hinchman & Grylls Associates, Inc., Detroit, during a session on Tuesday evening, Sept. 26.

At an afternoon session on Wednesday, Sept. 27, Robert E. Buenting, superintendent of manufacturing, Westinghouse Electric Corp., Staunton, Va., will speak on "Making More Effective Use of Building Models."

On Monday evening, Sept. 25, there will be a session on evaluating contracts. Speakers and their subjects are:

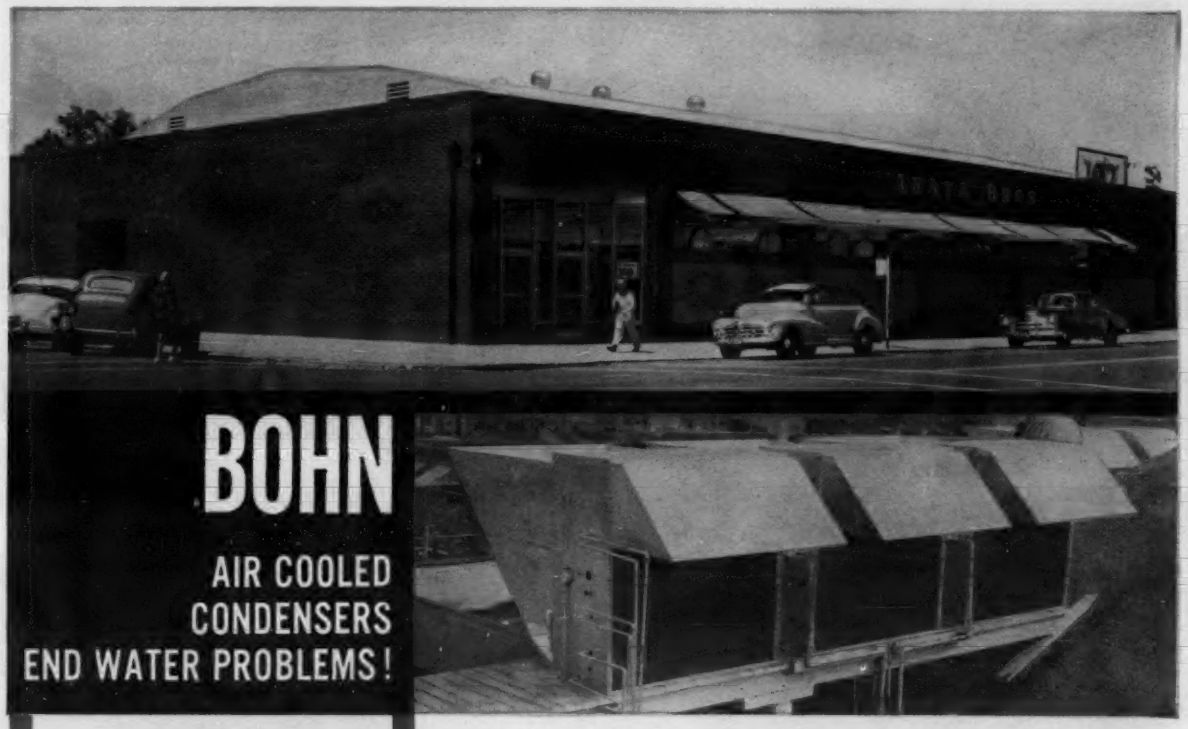
"Segregated Contracts vs. General Construction Contracts," J. D. Petersen, manager, engineering division, Goodyear Tire & Rubber Co., Akron, Ohio; "Comparison of Open Bidding, Invitation Bidding and Negotiated Bidding," Clayton E. Mullins, manager of construction division, engineering and construction department, Atlantic Refining Co. Philadelphia; Analyzing Construction Contract Features—Penalty Clauses, Performance Bonds, etc.," Louis Menk, associate, Albert Kahn Associated Architects & Engineers, Inc., Detroit.

General Rubber Catalogs 'SoundZorber' Line

TENAFLY, N. J.—A new illustrated "SoundZorber" Catalog 890, covering the firm's line of flexible, wire-reinforced rubber sound and vibration eliminators, has been released by General Rubber Corp., 70 Summit St. here.

The SoundZorber line has been designed to eliminate noise and vibration disturbance in pipe lines on air conditioning, heating, and refrigeration systems.

General Rubber has developed a new 250°F SoundZorber, called SoundZorber "HT," for use on high temperature hot water and on dual hot and cold water systems. SoundZorber "HT" employs Neoprene throughout and uses heat-resistant Dacron as the body fabric. Units are available in all styles and in all standard pipe sizes.



BOHN

AIR COOLED CONDENSERS END WATER PROBLEMS!

Horizontal Air Flow

Vertical Air Flow

BOHN AIR COOLED CONDENSERS ARE AVAILABLE IN 2 THROUGH 60-TON SIZES.

Sacramento Supermarket Saves $200 a Month in Water and Sewerage Bills Alone!

Water in Sacramento, California is hard and it's costly! Arata Brothers Supermarket solved this problem by changing from water cooled condensers to 7 Bohn Air Cooled Condensers. The result was lower maintenance and lower operating costs ... with savings of $200 monthly on sewerage and water bills alone. More importantly, the Bohn Air Cooled Condensers maintain even temperatures in the store's refrigerated equipment *at all times of the year!* Even a high temperature of 114° recorded in 1959 was easily handled by the Bohn Air Cooled Condensers! Whether it's hot or cold, Bohn controls adjust automatically to seasonal weather changes and maintain proper head pressure at all times.

For low first cost... low operating and maintenance costs, the answer is Bohn Air Cooled Condensers... available in horizontal models (deflectors optional) and in low-silhouette vertical models.

BOHN

Buy the known line... the BOHN line

ALUMINUM & BRASS CORPORATION

Danville Division • Danville, Illinois

170 'Tradeline' Models Will Reduce Wholesalers' Inventories of Controls by 80%, Says Honeywell

THE FOUR round thermostats on the right will replace any of the Honeywell units pictured at left—133 in all—as well as competitive units, according to Honeywell.

By C. Dale Mericle

CHICAGO—An attack on what it considers a major industry problem faced by wholesalers and contractors—that of providing replacements for the thousands of different residential cooling and heating controls now in use—has been launched by Minneapolis-Honeywell.

The company is introducing a new line of 170 "Tradeline" controls which it claims will replace more than 93% of the 18,000 variations of residential controls now being sold by both Honeywell and other control manufacturers in addition to the countless thousands of varieties installed in past years.

First announcement of the new program was made at press conferences held in Chicago and New York City last week.

4 Thermostats Replace 133 Models

As examples of how the new line simplifies stocking and replacement problems, Honeywell says four new Tradeline thermostats will replace 133 different M-H thermostats used in today's standard home installations plus hundreds of competitive models and many discontinued models still installed.

One oil burner relay will replace 49 models currently listed in the company's factory specification book; three gas valves will replace all 49 Honeywell gas valves currently used for home installations.

TRADELINE REPLACEMENT cross-reference chart is examined by K. L. Wilson, right, vice president in charge of residential sales, and Walter Baak, manager of wholesale residential sales. This chart makes possible quick identification of the new Tradeline controls needed for any application.

Besides helping the wholesaler and contractor, this approach should benefit the consumer, too, through faster service at lower cost, declared K. L. Wilson, Honeywell vice president, in announcing the new line.

All told, the complete line of new replacements will reduce by as much as 80% the model numbers of all brands of controls wholesalers need to carry for replacement, according to Walter J. Baak, wholesale manager of the company's Residential Div.

Other Major Benefits

Among other major benefits, Baak said, the new program will:

(1) Be the answer to slow-moving stock. From the full line of 170 controls, a wholesaler can pick those models which will be needed locally. With each model taking the place of dozens, he can be sure of greater turn-over per model, resulting in more volume of sales per foot of shelving and more profit from less investment.

(2) Simplify inventory and bookkeeping details. With fewer replacement controls, single item orders will be decreased. Fewer models will mean simpler inventory. Purchasing and receiving will also be simplified.

(3) Result in improved city-desk service. Dealers will make fewer calls and pick up larger orders. With fewer models, wholesalers can offer a greatly increased and more flexible replacement line. Locating stock and restocking will also be greatly simplified. Time normally wasted in trying to track down a special model or figure out a substitute will be eliminated. Over-all customer service will be improved.

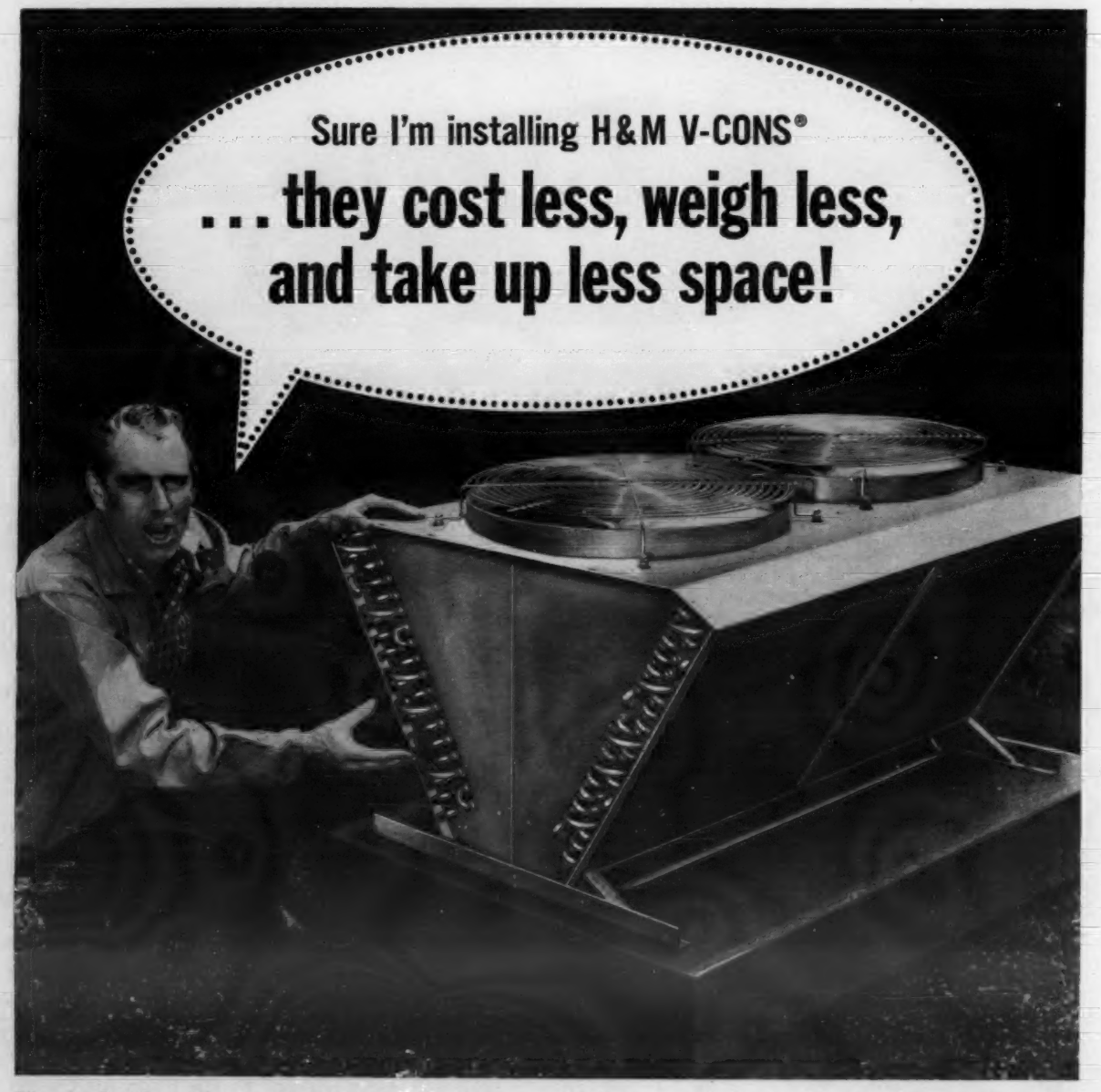
Here's how the new replacement program will work: Honeywell will supply wholesalers and dealers with a large cross-reference guide for wall mounting, together with a special pocket reference containing the same information. When a replacement is needed, the cross-reference guide will show, easily and quickly, the proper Tradeline control to be used.

Featured with the new Tradeline controls will be entirely new packaging, utilizing self-mailing all-plastic foam boxes that are as attractive as they are functional.

To fill an order, a wholesaler need only select the required control, address a special label, place it on the light-weight box, and drop the box in the mail. No additional wrapping is necessary. The plastic-foam boxes are extremely sturdy.

In contrast to normal practice, Honeywell is turning over to wholesalers major responsibility for introduction of the new program to dealers. To assist, the company is supplying wholesalers with a battery of merchandising aids, from announcement letters to 35mm slide presentations. Also, Honeywell will fully support the program with adver-

(Continued on Page 11, Col. 1)



No wonder these Halstead & Mitchell V-Cons® are the hottest selling air-cooled condensers around. First off, they give full performance yet cost up to 15% less than comparable capacity condensers.

Second, they weigh about half as much because they are housed in light-weight, corrosion-resistant aluminum. The fan blades are aluminum, too. Thus, roof loading is much lower and rigging far easier.

Next, they combine the low height and quiet operation of vertical discharge condensers with the minimal space requirements of horizontal discharge units.

Currently available in 3, 5, 7½, and 10 ton sizes, these new units round out Halstead & Mitchell's line of vertical and horizontal discharge condensers of 3 to 100 ton capacity. All models feature H&M's exclusive Turbu-Flo fins, which improve heat transfer between refrigerant and air.

For more information, contact your wholesaler, or write for Bulletin VC-103. Halstead & Mitchell Co., Dept. H-73, Bessemer Bldg., Pittsburgh 22, Pa.

HM

Halstead & Mitchell

Air-Cooled Condensers • Water-Cooled Condensers • Cooling Towers • Air Handlers and Coils

Export Representative: Sabal-Kielmann, 15 Williams Street, New York, New York

THE "TREASURE" OF THEM ALL. No other compressors or condensing units can match the all-around performance, dependability, and economy offered by Bendix-Westinghouse models. Prime reason is that we start with a sound and efficient design and then apply the most vigorous quality control program in the industry to every step in manufacture, assembly, and testing. Turn the page for a close-up look at some new condensing units.

Bendix-Westinghouse MOTOR COMPRESSORS

NEW!

BENDIX-WESTINGHOUSE

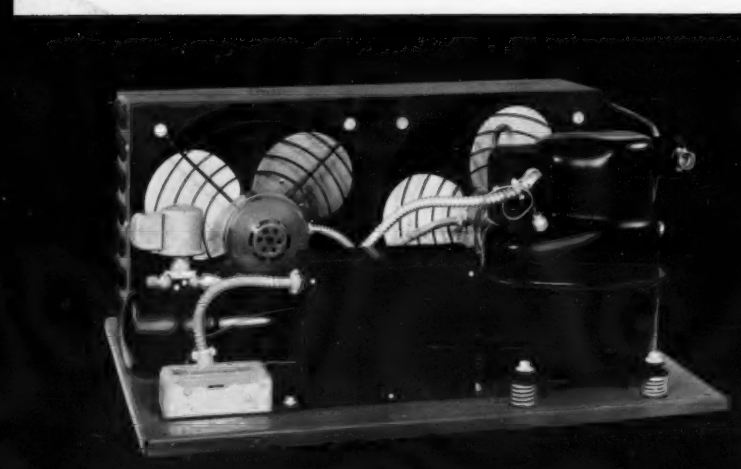
2- AND 3-HP R-12 CONDENSING UNITS

1-PHASE

OR 3-PHASE!

AIR- OR WATER-

COOLED



If you have a high back-pressure application—such as bulk milk coolers, water chillers, walk-in coolers, or air conditioning installations—you'll be particularly interested in the rugged new Bendix-Westinghouse condensing units.

Using R-12 refrigerant, these 2- and 3-hp condensing units are specifically engineered for just such applications. Their two-pole motor compressors save weight over standard four-pole units with the result that shipping costs are lower and required installation space is less.

Other advanced design improvements are many and include: latest-type motor insulation, full suction gas cooling, positive pressure lubrication, and inherent overload protection. They all add up to longer-lasting, quieter, more efficient operation. These units are available in either 230-volt, 60-cycle, 1-phase or 208/220-volt, 60-cycle, 3-phase models—air- or water-cooled.

Free literature on these new economy-minded Bendix-Westinghouse condensing units is yours for the asking. Write . . .

Bendix-Westinghouse

EVANSVILLE, INDIANA

A Division of Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio

Export Sales: Bendix International, 205 E. 42nd St., New York 17, N. Y.; Peter A. Karl, Inc., Union Station Bldg., Utica 2, N. Y.; Sabal-Kielmann, Inc., 15 William St., New York 5, N. Y.

Honeywell--

(Continued from Page 8, Col. 5)

tising in industry trade publications.

"With most other products being introduced," Baak explained, "we coordinate with the wholesaler, but we are generally expected to do the major job of building the demand. Then the wholesaler will tie in accordingly, and work with us to take advantage of this demand."

Decision Reached About a Year Ago

The Honeywell replacement program evolved from a decision reached about a year ago when, Wilson said, "we dedicated ourselves to doing something about the multiplicity of models that were contributing to uncertainties, delays, and confusion among too many wholesalers and dealers."

A team of engineering, production, and sales people was assigned full time to the job. An exhaustive study first was made of the number and variety of residential control devices in use in the industry. Then the team set about designing the condensed line of replacements.

Wilson cited technical progress as one factor contributing to the multiplicity of controls.

"This progress," he said, "has come through engineering breakthroughs and a continuous effort to obtain cost reductions through design improvement and simplification.

"For example, the fan and limit controls used on warm air furnaces have gone through eight redesigns during the past 20 years, and the record for aquastats used on boiler installations is pretty much the same."

Problem Overwhelming For Wholesaler, Dealer

Wilson said furnace, boiler, and control manufacturers had been able to take in stride the increase in the number and controls, but "you come up with a vastly different and quite disturbing answer when you look at what has happened to the wholesaler and dealer.

"When you think in terms of 18,000 current variations," he said, "and then try to tabulate the variations that have been produced over the last 20 years, you come up with a really staggering figure. Is it any wonder then that the wholesaler isn't always sure whether or not he has the right replacement control? Is it any wonder the dealer frequently has to make a second, unnecessary trip to the job after he's picked up what somebody guessed was a satisfactory replacement for a worn-out unit?

"The end result has been altogether too much uncertainty and even mistakes in making replacements, needless delays, and lower profits due to lost time and wasted efforts. In addition, it has necessitated ever-increasing inventory complexities, slow turn-over, ordering confusion, and a host of other problems that have eaten into the wholesalers' profits which shrunk from 4.5 to 1.7% before taxes between 1955 and 1960," Wilson emphasized.

Nero, Loudon Form Firm In Sacramento

SACRAMENTO, Calif. — William E. Nero and Joseph P. Loudon have formed United Mechanical Equipment Co. with offices in the bay area and in the Sacramento area.

They will be manufacturers' representatives for Schemenauer unit ventilators and fin-tube baseboard radiation products, Cook Co. roof ventilators, and Airfan Engineering Co. centrifugal fans and blowers, heating and ventilating units, air conditioning fan coil units, gas-fired multi-zone units, and evaporative coolers.

United's office here will be at 1244 Beard Way, Carmichael; mail address P. O. Box 4848, Sacramento 25. For the bay area the office will be at 1165 Temple Dr., Martinez; mail address P. O. Box 725, Walnut Creek.

Nero and Louden both were sales engineers for American Air Filter Co.

Dallas-Ft. Worth Residential Sales Hit High

Sales of central residential air conditioning units in the Dallas-Ft. Worth area hit what apparently was a weekly high for the year the week ending June 24, according to reports made by air conditioning dealer-contractors.

The total of 168 units was nearly three times that of the previous week, and better than twice the figure recorded for the week ended June 10, which had been the best week since early in May.

The 24 unitary air conditioners sold for commercial applications in the week ended June 24 also represented an improvement in this market over the figures recorded for several weeks previous.

This resume of sales in the Dallas-Ft. Worth area was made possible through figures submitted by Texas Electric Service Co., Ft. Worth Div.; and Dallas Power & Light Co.

Residential

Week (Ends)	No. Jobs	Total Tons
June 24	168	505

Commercial

Week (Ends)	No. Jobs	Total Tons
June 24	24	277.5

Shreveport Issues 108 Permits In June

SHREVEPORT, La.—During June, the city's Air Conditioning Dept. issued 108 permits for air conditioning, heating, and refrigeration installations totaling $216,195.

In the previous month, 112 permits were issued for a total equipment and installation cost of $380,152. The June permits were broken down as follows:

Residential: year-round air conditioning and heating—29; air conditioning—8; heating—33; replacements—11.

Commercial: year-round air conditioning and heating—9; air conditioning—2; heating—1; replacements—2.

Alterations and/or additions—10. Refrigeration—3.

The largest residential permit was issued to Arkansas-Louisiana Gas Co. It was for a $5,870 air conditioning and heating installation. The largest commercial permit was issued to Fitzgerald Plumbing Co. for a $55,733 cooling and heating job at St. Paul's Episcopal church.

NEW JERSEY
DEALERS and
CONTRACTORS

MONTGOMERY ENGINEERING CO.

EXCLUSIVE DISTRIBUTORS IN
NEW JERSEY TRADING AREA

Carrier

The World's Most Complete Line of
AIR CONDITIONING EQUIPMENT

Montgomery is proud of a 30 year affiliation with Carrier selling *WHOLESALE ONLY* through our policy of "built-in" services and facilities.

WE NOW PRESENT A NEW ERA IN QUALITY PRODUCTS
from "The First Name in Air Conditioning"

MONTGOMERY ENGINEERING CO.
322 Hoboken Ave. • Jersey City, N. J. • OLdfield 9-2757

Carrier AIR CONDITIONING AND REFRIGERATION

Inside Dope

By GEORGE F. TAUBENECK

(Continued from Page 1)

Marshall, because Win Schuler operates an enormous, and enormously successful dining place there.

Quite possibly it's the best restaurant in America. Without doubt Win Schuler, himself, is one of the most engaging and attractive personalities in the luncheon-dinner business.

Salesmen in our industry who call on such rurally-located Michigan firms as Whirlpool, Tyler, Acme, Tecumseh, Sherer-Gillette, Clarage, etc. feel privileged — because a dinner or luncheon stop at Win Schuler's can be scheduled.

Not only is the food and atmosphere the greatest, and Mr. Schuler the essence of warm charm. You get laughs, too. Win hands out lagniappe such as the following:

LOW CALORIE DIET

MONDAY

Breakfast: Weak Tea

Lunch: One Bouillon Cube in One-half Cup Diluted Water

Dinner: One Pigeon Thigh; Three Ounces Prune Juice (gargle only)

TUESDAY

Breakfast: Scraped Crumbs from Burnt Toast

Lunch: One Doughnut Hole (without sugar); One glass of Dehydrated Water

Dinner: Three Grains Cornmeal, Broiled

WEDNESDAY

Breakfast: Shredded Egg Shell Skin

Lunch: One-half Dozen Poppy Seeds

Dinner: Bee's Knees and Mosquito Knuckles Sauted in Vinegar

THURSDAY

Breakfast: Boiled-Out Stains of Old Table Cloth

Lunch: Belly Button of a Navel Orange

Dinner: Three Eyes from Irish Potato (diced)

FRIDAY

Breakfast: Two Lobster Antennas

Lunch: One Tail Joint of Sea Horse

Dinner: Rotisserie Broiled Guppy Filet

SATURDAY

Breakfast: Four Chopped Banana Seeds

Lunch Broiled Butterfly Liver

Dinner: Jelly Vertebrae a la Centipede

SUNDAY

Breakfast: Pickled Humming Bird Tongue

Lunch: Prime Rib of Tadpole; Aroma of Empty Custard Pie Plate

Dinner: Tossed Paprika and Clover Leaf Salad

NOTE:

A seven-ounce glass of steam may be consumed on alternate days to help in having something to blow off.

Gourmet Menu

APPETIZERS (Before or After)

Turnip Juice .....$ .45
Torpedo Juice .....$ .65
Au Jus .....$ .15
Choice of One:
Stuffed Schlumeel with Triffled $13.39
Matched Black Pearl Cocktail, Vinaigrette....$1,500 (plus tax)
Imitation Black Pearl Cocktail .....$ .15
Genuine Imitation Black Pearl Cocktail .....$ .20
Mother of Pearl-in-law (Ground Sea Shells).....10 centimes

ROASTS:

Hog on Ice $35.00
Saddle of Mule (With or Without Stirrups) $25.00
Barbecued Short Grits of Reef ..... 6 Bits
Ragout de Cheval et Lapin —(Stew for two concocted of equal parts of horse and rabbit—one rabbit to one horse) .....$ 1.00

PLEASE—NO TIPPING
WE DON'T PAY THE HELP
—WHY SHOULD YOU?

STEAKS — CHOPS:

Broiled African Leopard Steak.....Order in advance—2 years)
Hippopotamus Jowls with Black Eyed Peas .....$ .35
Sirloin Snake.....$15.00 per foot

FOUL:

(How foul can you get)
Sam Quentin Quail.....(Sorry)
Breast of Broiled Peasant—(Very hard to catch) $1,000.00

SEAFOODS:

(If it swims we haven't caught it)
Octopus au Gratin—With Apple in Mouth (for 20) $350.00
Virgin Mermaid on Half Shell—(for one).....Name Your Own Price
Young Whale—Stuffed with New Buick $3,500.00
With '37 Ford .....$ 9.97
Armored Lobster—Lobster, hors de combat $33.50
Lobster, en garde.....$16.50

Chef's Special Suggestions

Cheeses—Molded and Gangreen Brands—Binder Cheese .....$ .50
Swish Cheese (Whoops!) .....$ .50
Rat Trap Cheese.....$ .15

VEGETABLES:

Fresh Cliches .....$ 1.00
Dangling Participles .....$ 1.00
Mixed Metaphors .....$ 1.00
Split and Stuffed Infinitives .....$ 1.00
French Fried Colons.....$ 1.00
French Fried Semi-Colons .....$ .50

DESSERTS: (No Flame Please —We have no Insurance)

Mousse Moose $2.50
Moose Mousse $2.55
Crape Suzette—(Please do not order; the cook is a pyromaniac)

Bundy can mass-fabricate practically anything

Carrier Room Unit Campaign Aimed at Putting Zest Into Point-of-Sale Effort

SYRACUSE, N. Y.—A mid-summer dealer-salesman incentive program has been launched by Carrier Air Conditioning Co. to put zest into point-of-sale efforts to move room air conditioners.

Called "The Big Challenge," the campaign offers prize points which pay off in merchandise to dealers and dealer salesmen who meet or exceed a quota for sales of Carrier room units.

The dealership and the individual salesman each set their own quota with a minimum dealer quota of 25 units and minimum quota for the individual salesman of five units. The distributor salesman can do the same. It was explained to distributors

The higher the quotas are set, the more attractive the pay-offs become, reports Joseph S. Dougherty, room air conditioner sales manager.

The program is retroactive to June 8 and concludes Aug. 15. during the period of June 5-14 in meetings held in New York City, Chicago, Atlanta, New Orleans, and Denver.

In another step to insure that dealer salesmen all over the country know Carrier room units and how to sell them, Carrier announced that top executives of the company will be calling incognito on dealers enrolled in the program and will carry a "blank check" in their hip pockets.

They will size up the dealer's display of products, banners, literature, pennants, and salesman's knowledge. If pleased, they'll whip out the checkbook and write out gifts of prize points, as big as they want to make them.

Also, 800 telephone calls, 200 in each region, will be made to dealer salesmen from "Prize Headquarters." These calls will test the salesman's knowledge of the product and reward him with additional prize points.

S. K. Anderson Retires

LOS ANGELES—S. K. Anderson, a pioneer in the development of aircraft and space heat transfer equipment, has retired as senior project engineer for heat transfer design from The Garrett Corp.'s AiResearch Mfg. Co. of Los Angeles.

In the South

Five and Dimes Merchandising Room Units

ATLANTA — That great American institution, the five and ten cent store, is undergoing some changes in the business of merchandising, and air conditioning is playing an important role.

The five-and-tens are expanding their activities and in the South the stores are pushing window units.

It's part of a program on the part of the management of these chain stores to expand into "junior department stores."

Kresge's has added appliances and instituted a policy of establishing charge accounts, something unheard of in the five and ten cent store business of years gone by.

In Atlanta, the Kresge stores are advertising and featuring window units in a big way. Not only are they being advertised in window displays and up-front merchandising near the cashier's check-out counters, the company has been using newspaper advertising.

In downtown Atlanta, Newberry's, a large former variety store, has just undergone an extensive remodeling program to convert the unit into a department store. Appliances are one of the many lines added.

Two other large, nationwide variety chains, are moving into new fields of heavy merchandise, including appliances. These are the McCrory and McLellan stores operated by the McCrory Corp.

Woolworth also recently announced its plans to expand into the discount house field, but whether they plan to handle window air conditioners was not disclosed.

Gibson Promotes Two Executives

GREENVILLE, Mich. — Two executives of Gibson Refrigerator Sales Corp., subsidiary of Hupp Corp., have been promoted, given added assignments, and title changes.

D. M. Glover, previously administrative assistant, will become assistant to the president for administration, W. C. Conley, president, announced. R. R. Powers, formerly assistant to the president, will assume the title of marketing assistant to the president.

H. L. 'Bill' Consley Retires from York

YORK, Pa. — The retirement of H. L. "Bill" Consley, a veteran of 47 years with the York Div. of Borg-Warner Corp. and its predecessors, has been announced by the manufacturer.

For the past 18 years Consley has served as director of purchasing for the company. He is perhaps as well known for his slide illustrated talks about his hobby, big game hunting, as for his knowledge of purchasing and manufacturing.

If you use tubing that requires fabricating—anything from simple bends to special forming and machining—it will pay you to talk to Bundy®. Many of these mass-fabricating operations have been developed by Bundy especially for refrigeration use, and one of them may solve a difficult tubing problem for you. Your parts will be mass-fabricated from Bundyweld, the leakproof *double-walled* steel tubing. Bundyweld has long been the safety standard of the refrigeration industry and is covered by ASTM 254; and Govt. Specification MIL-T-3520, Type III. Can Bundy help you? Phone, write, or wire: Bundy Tubing Company, Detroit 14, Michigan.

BUNDY TUBING COMPANY • DETROIT 14, MICH. • WINCHESTER, KY. • HOMETOWN, PA.
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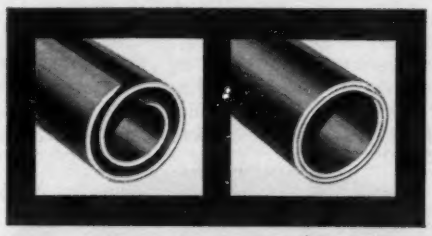
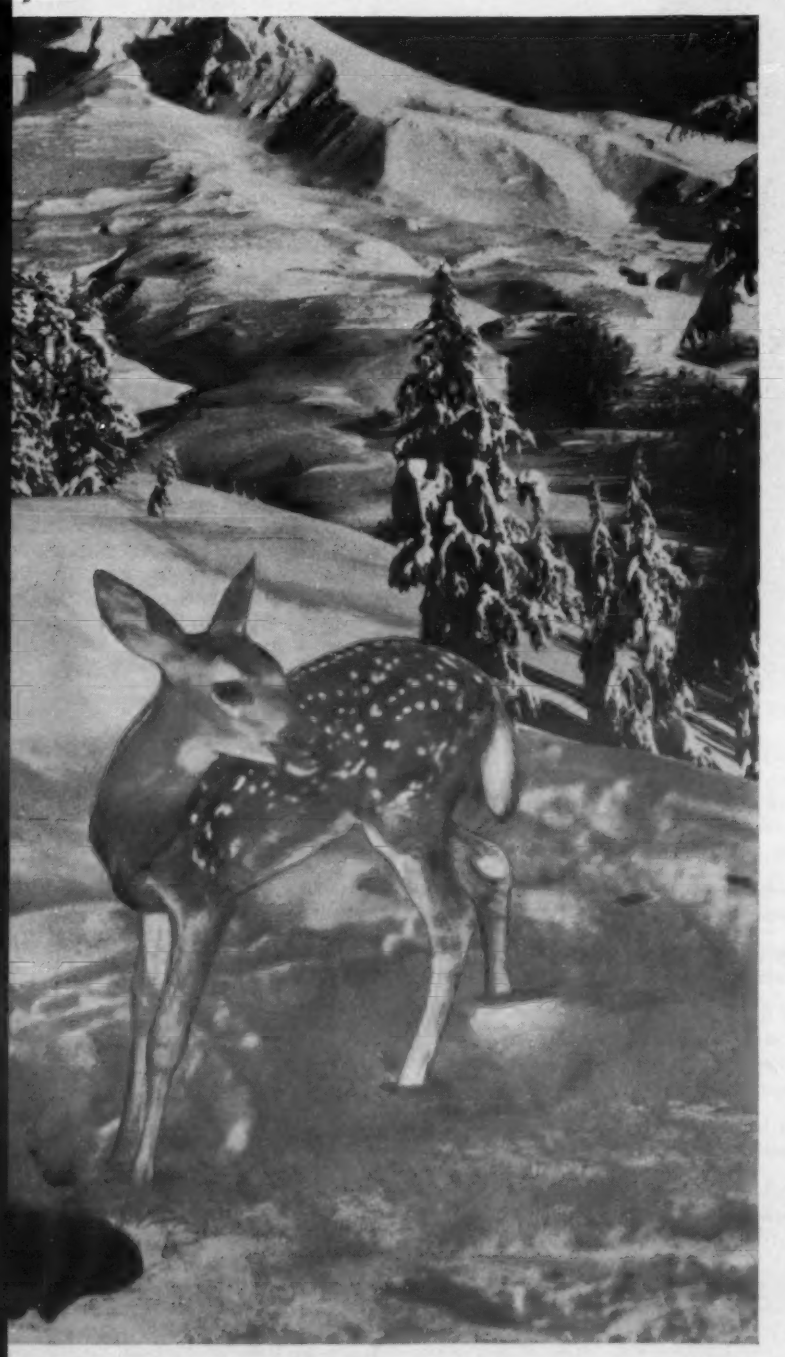
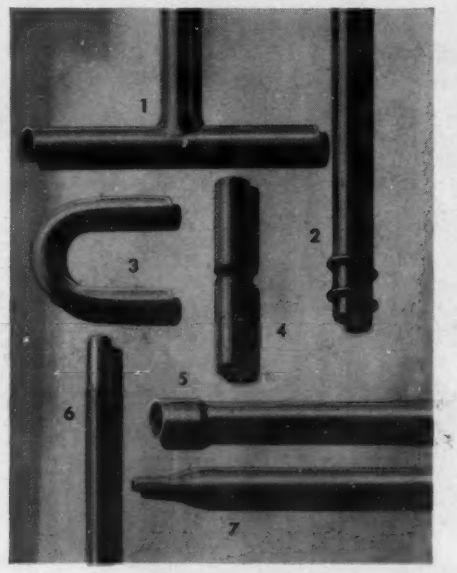


Bundyweld, double-walled from a single copper-plated steel strip, is metallurgically bonded through 360° of wall contact. It is lightweight and easily fabricated... has remarkably high bursting and fatigue strengths. Sizes available up to ⅝" O. D.





Small-diameter tubing components mass-fabricated by Bundy may be the answer to your design problem. The Bundyweld tubing shown above is: (1) saddled and soldered, (2) double-beaded, (3) bent to minimum radius, (4) grooved, (5) expanded, (6) precision-ground, (7) swaged.

BUNDYWELD® TUBING

Certified Represents Hussmann In Detroit

ST. LOUIS—Certified Refrigeration, Inc., Detroit, will serve as exclusive representative in the Detroit area for Hussmann Refrigeration Inc., the manufacturer announced.

Company officers are Robert J. Crawford, president; George V. Carless, vice president; George T. Carroll, secretary-treasurer. The officers will be assisted by D. J. LaRose, former Hussmann representative in the Detroit area, who will join the Certified staff as sales manager of food store equipment. The entire organization includes 50 employes.

Food store engineering, equipment application, installation, and service will be directed by Richard S. Marshall, who has 21 years of experience in this field.

N. J. Burtt

W. M. Barnes

Glasco Appoints Burtt and Barnes

MUNCIE, Ind. — Norman J. Burtt has been appointed vice president by the board of directors of Glasco Corp., according to Bird Kelly, president. Burtt will have responsibility for all Glasco sales and marketing.

Kelly also announced the appointment of William M. Barnes as director of engineering.

Burtt first joined the Glasco organization in 1955. He has served as pre-mix division sales manager and was named in 1959 as general sales manager for all Glasco products, including the bottler, general vending, and food service divisions.

Barnes recently joined Glasco after spending 15 years with the Coca-Cola Co. in Atlanta. As head of the sales equipment section in the Engineering Dept. there, he was involved in much of the engineering work on pre-mix dispensing and other merchandising equipment used by bottlers of Coca-Cola.

Buckley Crist will continue to be in charge of research and development and Thomas Yingst will be in charge of product engineering.

Sanitarians Meet

DES MOINES, Iowa — The Hotel Savery here will be the site of the 50th anniversary meeting of International Association of Milk & Food Sanitarians Aug. 14-17.

Acquisition Gives Universal Exclusive Distribution of Wittenborg Vendor Line

ST. LOUIS—Universal Match Corp. has successfully concluded negotiations to acquire Wittenborg, Inc., U.S.A., John L. Wilson, president of Universal Match, announced.

The acquisition gives Universal Match exclusive distribution rights for the versatile Wittenborg vending machine line throughout North America as well as exclusive rights for the assembly and manufacture of the line in North America, it was stated.

Wittenborg, Inc., Copenhagen, Denmark, is a producer of hot and cold food and general merchandise vending machines in Europe, and its machines are in extensive use in the United States.

"This outstanding development gives us immediately complete coverage in all vending categories and places us strongly in the in-plant vending field," Wilson said.

"The Wittenborg line does not duplicate the products of our vending subsidiaries, National Vendors and the Glasco Corp. Instead, it supplements and fills out those lines. By 1962, Wittenborg will add several million dollars to our vending sales volume."

Wilson reported that Universal Match's vending machine sales are on the upturn and the company expects June volume to equal or exceed that of a year ago.

He also announced that Frank J. Prince, chairman of Universal Match's executive committee, has returned from Europe where he completed arrangements with Fisher-Ludlow, subsidiary of the British Motor Car Co., to handle both the National Vendors and Glasco lines in Europe.

"A recent Wittenborg installation in Stockholm, Sweden, is 100 ft long with 1,515 compartments, 492 of them refrigerated," the announcement pointed out.

"It is in operation 24 hours a day and sells all the ingredients for a complete dinner plus such sundries as nylon stockings, toiletries, and the like."

American Automatic Ice Names Pittsburgh Outlet

FARIBAULT, Minn.—Emmett Bailey, vice president of the American Automatic Ice Machine Co., has announced the appointment of Williams & Co., Inc., Pittsburgh as wholesale distributor of "Crystal Tips" ice makers in the Pittsburgh territory.

American Automatic Ice Machine now offers 18 models of automatic ice makers. Several new models will be added to the line in the very near future, according to Bailey.

Hotel Guests Have Ice Maker In Room

HOUSTON, Texas — Features of the newly-opened Towers hotel here include a private, automatic supply of ice right in each guest room.

When a guest wishes a cool glass of water or beverage, he doesn't have to call room service; he simply opens the door of his RCA Whirlpool room ice maker and removes as many cubes as desired.

"Already a hallmark of hospitality in other fine hotels and motels across the country, individual RCA Whirlpool 'Ice-Magic' ice freezers have been built into the bathroom walls of 250 private guest rooms at the Towers," Whirlpool Corp. reported.

"Whirlpool's hotel-motel ice maker is a self-contained unit which can be installed in the wall, in cabinets or furniture, or can be set on top of the counter or table."

Where high humidity is needed . . .

THE LARKIN BAFFLE COOLER COIL

Is ideal for Walk-In Coolers. Florist Boxes, Produce Boxes, Packing Rooms, Etc.

In refrigerators where a high humidity is necessary, it will pay you to install the Larkin Baffle Cooler Coil. By handling a large volume of air and cooling it slightly each time it passes through the coil, it is possible to maintain a higher humidity. Louvers are engineered to provide correct circulation of air and accelerate its flow. Air constantly swirls around stored products, providing proper refrigeration and humidity.

The Larkin Baffle Cooler Coil is durably constructed and is a complete unit. It consists of an aluminum cross-fin coil, double louvered baffle with drain pan, and hangers.

OUTSTANDING FEATURES

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- Adjustable baffles easily removed for inspection and cleaning
- Coil and baffle hangers are heavy-gauge die-stamped aluminum channel punched with keyslots for easy attachment
- Matched baffles for left and right sides furnished if specified
- Special-sized baffle cooler coils are also available

See your wholesaler or write for Bulletin 1057

WATCHDOG OF THE NATION'S FOOD AND COMFORT — LARKIN

LARKIN COILS INC.

519 MEMORIAL DRIVE, S.E., ATLANTA, GEORGIA

Answers Contractors' Objections

Detroit Safety Engineer Tells How City Rates Unmarked Motors To Determine Horsepower

By George M. Hanning

DETROIT—When is a 5-hp motor not a 5-hp motor?

When it comes to Detroit unmarked, grumble Detroit refrigeration contractors and wholesalers.

"If we sell the customer a 5-hp compressor, we order a 5-hp unit from the manufacturer, he sends us what he calls a 5-hp unit, why can't the city accept it as having a 5-hp, motor, even if it is not specially marked as such?" complained one member of the Refrigeration & Air Conditioning Contractors Association of Greater Detroit.

Instead, he pointed out, city inspectors make their own determination of horsepower and may rate it at 7½ hp.

Contractor and Customer Both Hurt

When they do this, it hurts both the contractor and his customer, the complainant continued. The contractor's relations with his customer suffers when the customer has to pay higher permit fees, higher annual inspection fees, and is led to anticipate higher operating costs as well as higher property assessment.

"It's unfair," chorused contractors and wholesalers at a recent Detroit RACCA meeting. They showered their objections onto Frank Drogosch, chief safety engineer for the city of Detroit, who was guest speaker for the evening.

Drogosch admitted the problem, but defended the city's efforts to be impartial.

The city's refrigeration code classifies refrigeration systems and compressor units by horsepower, he explained. If the motor is not labeled as to its horsepower, the city must make its own determination of horsepower. It can't rely on a manufacturer's model number to mean a particular horsepower rating. It also refuses to recognize a horsepower rating marked on the cabinet of a piece of equipment.

Voltage and Current Ratings Used by City

City inspectors determine horsepower by the stamped full load running amps shown on the manufacturer's nameplate on the compressor. According to a printed table used by inspectors and available to contractors, a 220-volt, three-phase motor drawing between 13.6 and 16.4 amps is a 5-hp motor. If it draws between 21.4 and 22.5 amps it is a 7½-hp motor, no matter what the compressor manufacturer may consider it.

The city must be impartial, Drogosch repeated. Two identical motors must be rated equally, whether or not one is called a 5-hp motor by one manufacturer and the other a 7½-hp motor by another manufacturer.

Drogosch admitted that horsepower is not the best possible rating method. Personally, he favors ratings in Btu.

"I don't know what to do," he said. "I wish someone could come up with some rating system that is more accurate."

Wholesaler George Johnston protested that Detroit was the only city in the country that determines horsepower from voltage and current rating on the nameplate of the motor.

Another wholesaler, Bill Champine, argued that hermetic motors were being penalized because they drew more amps than open-type motors of the same rating.

Drogosch finally challenged the group to take the initiative in working out changes to the code to bring it up to date and eliminate inequities. Then they should present their changes to city authorities as an industry and support them with a united front.

He said he favors frequent code changes, if necessary, to keep it up to date. In fact he suggested one himself.

Suggests Extension In Range of Class B Refrigeration License

He would extend the range of the Class B refrigeration contractor's license to permit the installation or servicing of refrigerating systems of up to 25-hp. Current limit is 7½-hp.

To install or service equipment of more than 7½-hp now requires a Class C "Unlimited" contractor's license. To get a Class C license required five instead of four years' previous experience and passing a more difficult examination.

Immediate reaction of some contractors to this proposal was negative. "If they want to handle the bigger equipment, let 'em pass the Class C exam," said one.

Detroit Code Dates Back to May 12, 1916

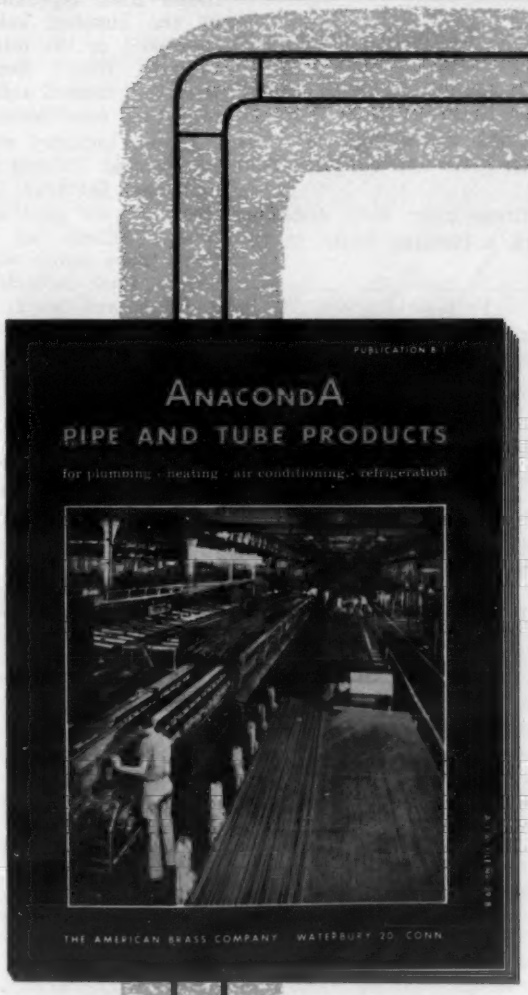
As guest speaker, Drogosch outlined the history of the Detroit code. It was first enacted on May 12, 1916, as the Ice Making and Cooling Plants ordinance.

He enumerated the many changes that took place over the years until it evolved into the present code which not only governs in Detroit but in 11 neighboring communities.

"Since licensing provisions were adopted in 1936, the total number of licensed refrigeration contractors in the city has remained approximately the same —in the neighborhood of 350— despite the number of new contractors who pass the examinations every year and despite the growth of the industry," Drogosch commented. He said he could not explain this phenomenon.

As the result of operating under a licensing law, he believes, the number of accidents that have occurred over the years has been negligible and the number of fly-by-night operators in Detroit has been reduced to insignificance, though they are not now and probably never will be entirely eliminated.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.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Editorial

Teaching the World To Read

ONE OF the greatest obstacles in the path of missionaries and businessmen in underdeveloped areas of the world is illiteracy. By far the majority of the human race cannot read or write. This makes it impossible for the missionary, businessman, politician, agricultural expert to reach more people than can hear his voice or the voices of some of his native assistants.

One man has spent a lifetime eliminating this barrier. So effective has his work been that it is estimated he has taught 60 million people in 91 countries to read!

Dr. Frank Laubach has been called the most effective missionary on foreign soil. He has developed a simple method of teaching illiterates to read—a method so simple that some natives are able to sound out any word in their language after only two weeks of study. (This would be impossible with the English language for the basic reason that we have so many ways of pronouncing our vowels, for example eight sounds for *a* and 15 sounds for *o*. In most other languages there is only one sound for vowels and most other letters.)

By using simple pictures to illustrate the sounds of letters and the shape of letters, Dr. Laubach is quickly able to tell simple stories. The method is so basic that a person who has just learned to read can begin teaching another illiterate, and the ability to read can sweep through a small village in a matter of weeks.

Because these backward peoples need material and physical help as well as spiritual guidance, Dr. Laubach quickly makes his stories practical and useful in the natives' daily lives. Thus, the hero in one of his stories may be a man who learned to "feed his land" (fertilize) so that the land could better feed him. In another story, the hero learns to use chemical powders to rid bedding and clothes of insects.

A typical quotation from one of these simple stories shows how effectively this type of teaching can reach these simple people. In a story designed to get the natives to eat a more balanced diet, Dr. Laubach says, "Anand, the Wise Man, was wise because he learned to read. He knew what foods to eat in order to be strong." Then the story goes on to show what foods Wise Man Anand eats.

The beauty of Dr. Laubach's method is that it is so uncomplicated. And it gives to primitive peoples a means by which they can eventually raise themselves to Western standards in material well-being, without having to depend on gifts and charity from wealthier nations.

Future generations may well consider Dr. Laubach's work a turning point in the world's progress.

Stokley's Services, Inc.
Norfolk, Va.

Editor:

Your editorial comments relative to a "Sales Academy" in your June 26th issue, have provoked me considerably. It is true that Salesmanship died in World War II, but what caused its passing?

Top flight management of today generally consists of men who matured and were promoted to their present jobs in a market that was 15 years in the making, 15 years of depression and war shortages.

Now for the past few years, management has just sat back and howled!

Howled for market penetration, for more outlets, for cheaper equipment, for sales of any kind, prepared graphs and charts, ignored the buying public. Howled for their engineers to build it *cheaper!!*

Cheapen this and cheapen that, get the price down, undersell the other fellow, sell the distributor on the idea that 10% mark up is enough (how many have they broken and forced out of business?). Cut quality, cut out good application design, ignore the user, just sell equipment.

The market is here, but it is up to the industry to educate the buying public, by producing quality products, having quality contractors and dealers, and insisting on quality applications, and to put pride, prestige, loyalty, and profit back in the business.

Management has just got to keep on howling, but they have to get off their backsides and howl in the highways and byways of this country. New York City does not set the pattern for the rest of the world, and Joe Blow does not read the graphs and charts prepared by some dreamer that has never been in Joe's home town.

J. M. STOKLEY

Sales Academy Letters

Refrigeration Distributors Corp.
Denver, Colo.

Editor:

Your editorial in the June 26th issue is extremely interesting.

We here at Re-Strib-Co heartily support the ideas advanced in your suggestions for an Air Conditioning Sales Academy.

We are distributors for the Rocky Mountain area for General Electric Heating and Air Conditioning products for both commercial and residential applications, and the problems plaguing the industry are as prevalent in the Rocky Mountains as in other parts of the country.

We agree that one of the major problems facing our industry is the lack of professional salesmen at the dealer and distributor level.

We would be most happy to see an Academy such as you have outlined, established for the purpose of raising our industry to the level that we would like to see it.

W. W. LAZEAR,
Vice President

Philadelphia, Pa.

Editor:

Your Sales Academy editorial was particularly interesting to the writer, because after 25 years in the sales side of this business he is convinced that the weakness at the point of sale is due to just one thing:

The small businessman who came up through the shop or the office simply does not believe that there can be a trade (let's not use the word profession) of Salesmanship.

He can see his workmen banging away in the shop and his office people making marks on paper, but after all, what does a salesman do? Just lounges around, maybe pecks out a proposal on the office typewriter, wanders out to see the prospect, talks to him a while, and just for bringing in an order expects to be paid as much as the installation mechanic!

The small businessman, says an article in April 1960 *Harpers*, feels he knows more about engineering than his engineer, about sales than his sales manager, about accounting than his accountant.

Why, if he could just find the time, after attending to all the details that bosses feel they have to attend to, he could sell twice as much, and without bothering to learn all these silly sales methods that professional salesmen think so important! He'd just buy the prospect a drink, describe his wonderful organization, and if the man has ordinary good sense he will buy.

This industry will never be able to attract and keep competent salesmen until the men who run it admit to themselves that selling, like repairing a compressor, or any other operation is a skill that has to be learned and paid for.

PERCIVAL M. SAX

Air-Conditioning & Refrigeration
Wholesalers
Cleveland, Ohio

Publisher:

I have a great aversion, George . . . to the word "pregnant," and darn near missed reading your editorial of June 26th. With six kids you can understand why I feel this way toward the word.

But, after reading the editorial . . . I can say as the reported expert on sex told his audience . . . "It's a pleasure."

Your words move me to say . . . let's do it now! If we were to have 30 to 45 young men that the industry would back for six months to a year with a program of training . . . we would be building the strongest possible insurance for the industry's future. Yours and mine included.

I recall all too well an incentive program conducted by a former employer of mine. We had over 3,000 salesmen enrolled. At the end of the program we found that approximately 125 of the enrolled salesmen did over 60% of the total business written. Why? Because they were well trained and knew how to sell air conditioning.

In our industry we're hovering around 300,000 to 350,000 unit mark per year. To increase this . . . we need added sales power. Where can we get it. From those people who are now selling (but ineffectively) . . . and from new blood.

I disagree with George Jones when he says "salesmanship died in World War II." Salesmanship didn't die . . . the thing that died was taking the time to train salesmen.

I started in this business under a guy I consider a master salesman. When he took me on as his "junior" he told me how to walk down the street . . . how to knock on a door . . . how to get the homeowner to say the first words . . . how to get into the house . . . how to qualify the prospect . . . how to present your product . . . how to present the contract . . . how to close the deal.

Yet when I talk to many salesmen today . . . they never heard of such techniques. In fact, when you tell them . . . many of them shake their heads and say, "Gee, you sound like a con man."

Perhaps . . . but when you sell two out of three presentations and have happy customers . . . you aren't conning them . . . you're helping them to make up their minds to something they wanted anyway.

Good salesmanship can be taught . . . just like teaching a guy to weld or to act. We have many experts in our industry who must help train our people. Let's make them the professors at your proposed academy.

I'm willing to bet that your editorial has already excited such people and now all they are asking to themselves is . . . how can I help? Good luck and good selling.

THOM MUIR,
Executive Vice President

Sales Academy Letters

Climate-Makers, Inc.
Norfolk, Va.

Editor:

For a long time, Mr. Taubeneck . . . I have enjoyed the many articles you have contributed to the NEWS. It is by far the best publication for our industry that it has been my privilege to read and we subscribe to practically all of them.

Special reference is made to the lead article of the June 26th issue entitled "Pregnant Idea For Our Industry: An Air Conditioning Sales Academy."

May I suggest that, as a starter, the editorial be mailed to the proper people representing the various firms of every manufacturer of air conditioning equipment in the United States of America.

Being active in the local Sales Executives Club gives one additional insight into the almost nonexistent salesmanship that is prevalent today.

If available, we would appreciate several extra reprints of the article in order that we might personally see that the attention of the manufacturers that supply our equipment is so directed to this excellent suggestion.

HENRY T. RODGERSON,
President

AIR CONDITIONING HEATING & REFRIGERATION NEWS
F. M. COCKRELL, Founder

'The Conscience of the Industry'

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From the Files of the News

25 years ago . . .

An engineering study of requirements and costs for residential air conditioning in Mason City, Wash., in the Grand Coulee Dam area revealed these figures: recording of temperatures showed a total of 594 hours with temperatures above 80°F. Average yearly cost for comfort cooling a home not especially insulated or oriented for air conditioning was $37.50 at a 3-cent per kwh rate, at the special rate of 3 mills per kw under which contractors were able to buy power for construction purposes on the Grand Coulee dam, cooling cost for the season amounted to $3.76.

In a special advertising campaign directed at businessmen and builders, sponsored jointly by the Air Conditioning Manufacturers' Association and Kinetic Chemicals, Inc., a "warning" was sounded that persons buying air conditioning were not getting true summer air conditioning unless the air was "cooled, dehumidified, and circulated" and "most air conditioning, in addition, cleans the air."

What is believed to be the first large air conditioning installation in which the liquid refrigerant has been metered and sold on a unit basis, so that operating costs are shared by building tenants, is an installation made by Carrier in the Lincoln Theater building in Miami Beach, Fla. . . . Answers to a layman's questions on air conditioning are featured in the August "McCall's" magazine by E. A. Freund, development engineer in charge of air conditioning for the Union Electric & Power Co. of St. Louis. . . . Data for estimating proper size units for beer-cooling requirements were provided in information issued by Temprite Products Corp.

10 years ago . . .

"Heat pumps offer a source of energy that 100 years from now may supply 200 billion horsepower hours a year," predicts G. W. Gleeson, dean of engineering at Oregon State college. "Extensive studies have greatly improved techniques in use of the heat pump . . . and heat pumps efficiently convert low grade sources of heat energy into higher temperatures." . . . A Fremont, Neb. hospital with space limitations has its air conditioning on top of the roof with ductwork carrying the conditioned air through the equipment room into the operating rooms.

A Cleveland real estate editor reports that excessive moisture within a home can cause paint to peel off the outside walls. Air conditioning or a dehumidifier are his suggested solutions to the problem. . . . Industries converting waste products to power sources for air-cooling equipment include a Tennessee pencil factory which uses waste shavings to produce steam, and a brewery which makes use of waste water.

It's the average storage temperature, not fluctuation, that determines life of products in frozen storage, a U.S. government report indicates. . . . A walk-in refrigerator that replaced a wall separating the front of the store from the stockroom has increased bottled goods sales for a Denver druggist.

50 years ago . . .

From the RECOLD MUSEUM

These 40-to-60 years ago items are from the Recold Museum Library, maintained by Hy Jarvis, Recold Corp. president.

Spring has thawed the frigid blasts leveled by Congressmen last winter against cold stores and cold stored food. About the only remaining measure is that of Congressman Moore (Pa.) which would make it unlawful to store in a warehouse for more than six months if the products is to be sold as fresh. A precise system is set up by the bill, including dating for each package in a warehouse and making monthly progress reports. No storage house can accept eggs more than 10 days old, unless they have been kept at temperatures below 40°F. The regulations would apply to meat, fish, poultry, butter, eggs, game, or what have you. Hotels, restaurants are exempt.

Oil Burner Course Being Held In Washington, D. C.

WASHINGTON, D. C. — National Oil Fuel Institute and The Oil Heat Institute of Greater Washington (D. C.) are cooperating to run a basic oil burner course, comprising eight 2½-hour evening sessions.

The line-up of speakers provided by NOFI has attracted a record enrollment of 40, reported Harry Clarkson, executive secretary of OHI of Greater Washington. These include both beginning servicemen and experienced service personnel desiring refresher data.

The course began July 11. Subjects and speakers for the remaining sessions are:

Tuesday, July 18 — "Sundstrand Pumps, Servicing, etc."—James Holmin, Sundstrand Hydraulics, Div. of Sundstrand Corp.; Thursday, July 20—"Webster Pumps, Servicing, etc."—L. E. Woolf, Webster Electric Co.; Tuesday, July 25—"Service and Installation of Forced Draft Oil-Fired Heating Equipment"—Robert Gessner, Jet-Heet, Inc.; Thursday, July 27—"Combustion Instruments and Combustion Testing"—Jack Smith, Bacharach Industrial Instrument Co.; Tuesday, Aug. 1—"Domestic Oil Burner Controls and Control Systems"—Minneapolis-Honeywell Regulator Co.; Thursday, Aug. 3—"Domestic Oil Burner Controls and Control Systems"—Lee Liepin, General Controls Co.

Classes are being held at Chamberlain Vocational School.

McCall Names Factory Rep For New York, New Jersey

HUDSON, N. Y.—McCall Refrigerator Corp. has announced the appointment of J. L. Kahn & Sons, Inc., New York City, as direct factory representative in the New York-New Jersey Metropolitan area.

Henry Osterhoudt, who has been associated with McCall for over 15 years, will continue to work in the territory as a factory coordinator and refrigeration specialist.

Original Equip. Mfrs.:

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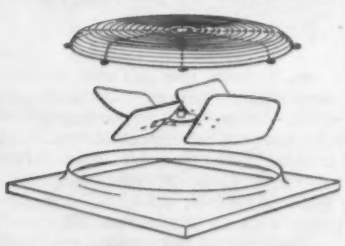

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NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

QUIET!

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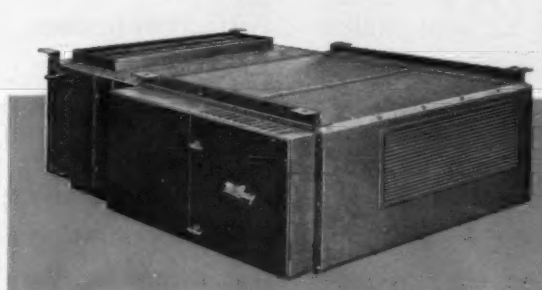


HORIZONTAL SEASONVENT

VERTICAL HEATING & VENTILATING UNIT

VERTICAL SEASONVENT

McQuay INC.

AIR CONDITIONING • HEATING • REFRIGERATION

McQuay HEATING AND VENTILATING UNITS

McQuay "HC" heating and ventilating units are the most versatile and flexible to be found anywhere with the widest range of coil selection in the industry, and with capacities for vertical and horizontal models up to 48,330 cfm in nineteen sizes. They are designed for horizontal, vertical, wall and inverted installations for use with or without duct work. They can be used with hot water or steam, with or without duct work, and will fill the needs of every installation.

The McQuay Seasonvent is engineered specifically for auditoriums and theatres where quiet operation is demanded. This large capacity heating and ventilating unit is also extremely versatile and flexible with nine sizes for low static applications (0" to 1¼" s.p.) and seven sizes for high static installations. Capacities range from 1,250 to 15,000 cfm. Contact your nearest McQuay representative for complete information, or write to McQuay, Inc., 1607 Broadway N. E., Minneapolis 13, Minnesota.

Ice Flaker Features 'Extremely Large' Bin

● The "Kwik-Flaker," an ice flaker with "an extremely large bin capacity in a compact unit, providing an ice reserve for peak load periods," has been announced by The Kold-Draft Div., Uniflow Mfg. Co., Dept. AH&RN, East Lake Rd., Erie, Pa.

The unit has a sloping front for easy access, rounded corners, recessed steel base, grey pearl-tone baked-on vinyl enamel finish, stainless steel lid with roller lid, stainless steel trim, and stainless steel bin. A stainless steel cabinet is optional.

The Kwik-Flaker offers a choice of several models, self-contained or remote: 250-lb Kwik-Flaker with 200-lb bin, self contained; 250-lb Remote Kwik-Flaker adapted for Kold Draft bin or existing bin . . . can be free standing on right or left side of bin; Kold Draft bin . . . 300-lb ice capacity to be used with Remote Kwik-Flaker available with opening on right, left, or both.

Want More Details?

ADDITIONAL details on products that are described on these pages may be obtained by writing the manufacturer at the address given in each What's New story.

Tell him: "AH&RN sent me!"

Synchronous Timer Motor 'Sealed In Oil'

● A synchronous timer motor featuring what is described as "a unique new method of sealing all moving parts in oil to achieve noiseless and virtual life-time continuous operation" has been developed by Lake City, Inc., a subsidiary of Controls Co. of America, Dept. AH&RN, 110 West Woodstock, Crystal Lake, Ill.

"Complete sealing is effected by a specially designed spring-loaded packing gland which prevents the oil from working out of the housing when the motor is operating," it was explained. "Key element of the packing gland is a neoprene 'O' ring which is held under constant pressure by a spring, thus sealing in the oil."

Outside diameter of the motor measures only 1 11/16 in., it was stressed.

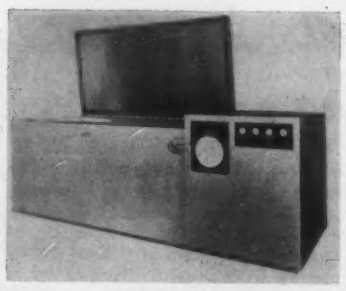
Environmental Chamber Can Reach −250° F

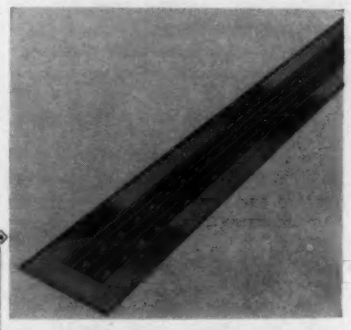
● An environmental chamber, with a mechanically refrigerated closed system, able to reach -250°F has been announced by Webber Mfg. Co., Inc., Dept. AH&RN, P. O. Box 217, Indianapolis 6.

"Known as model WT-8-250, it is designed to make possible many new applications for low temperature work in research, processing, and production," the company said.

"The chamber may be used for increasing the life of processing dies, tools, drills, and broaches, as well as for space vehicle component testing, blood storage, instrument calibration, gas dehydration, liquefaction of gases, metal hardening, and nuclear radiation testing.

"The same system may be incorporated in many Webber standard chambers, or in custom models for such applications as radio detecting and ranging devices."



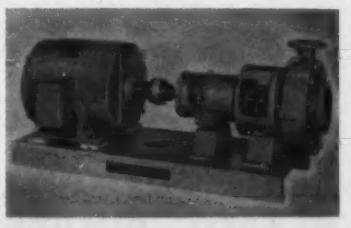


Air Diffusers Have Removable Core

● A new series of extruded aluminum "Stripline" slot type air diffusers with separate plaster frames and removable cores for heating and cooling applications has been announced by Air Devices, Inc., Dept. AH&RN, 185 Madison Ave., New York 16, N. Y.

They are available in two styles of frames and three types of removable cores with diffusing vanes for ceiling-sidewall-window-sill installations.

"The diffusers (some only 1 13/16 in. in width) are made in sections or can be used as a continuous unit by butting the sections together with a built-in interlocking feature that assures perfect alignment," the company said. "The entire unit is quickly and easily installed without the use of tools. A unique coil spring-lock eliminates the use of screws."



End Suction Centrifugal Pumps Introduced

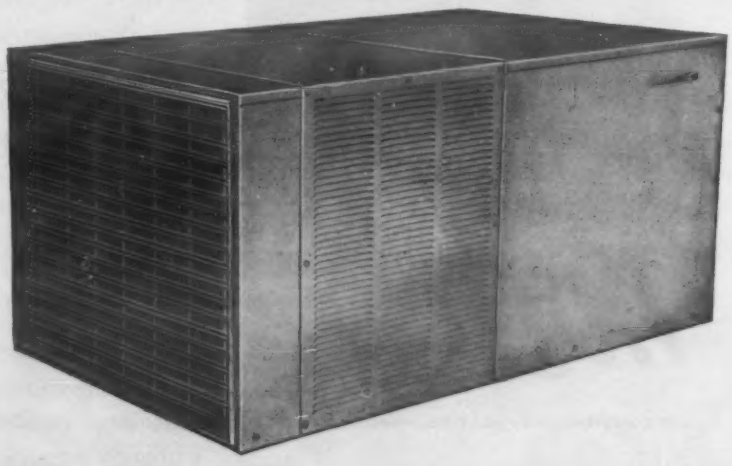
● A new line of end suction centrifugal pumps, designed to meet the service requirements of the heating, air conditioning, and process industries, has been introduced by C. H. Wheeler Mfg. Co., Dept. AH&RN, 19th St. and Lehigh Ave., Philadelphia 32.

Features of the pumps are their "liberal packing areas, heavy mechanical construction, and external dimensions," it was stated. Classified as Series 300, the line offers 14 pump sizes, ranging from 1 in. to 5 in. Cast iron alloys and bronzes are used in manufacturing the new Wheeler pumps to meet the requirements for general process applications.

The Series 300 pumps are capable of pumping liquids ranging in temperature from sub-zero to 350°F at pressures up to 250 lbs, according to the company. All except the smallest pump can be close-coupled using standard motors with NEMA shaft extensions.

PERFECTION IN PERFORMANCE

Full-rated capacity performance on the heating cycle — an exclusive Perfection feature — is guaranteed by a complete row of extra tubes on the inside coil of every Perfection Remote or Tuckaway Heat Pump. All Perfection Air Conditioners meet ARI standards for full-rated capacity. After final assembly, each and every unit (not a random sample) is factory-tested under operating conditions more severe than those actually specified by ARI. But the best test for performance is Perfection's low cost of operation your customers will enjoy. The perfect balance of all Perfection Heat Pump or Air Conditioner components gives more BTU's of heating or cooling per watt of electricity than any other comparable unit on the market today. This is your assurance that Perfection Heat Pumps and Air Conditioners deliver the kind of performance you and your customers demand. You can offer performance like this to meet any installation requirement. You have full selling flexibility with heat pumps or air conditioners, remote or tuckaway models and 2, 3, 4 and 5-ton capacities. ***PERFECTIONISTS*** are a select group of distributors and dealers. Want complete details? Write Perfection Division, Hupp Corporation, 1135 Ivanhoe Road, Cleveland 10, Ohio.



PERFECTION

Foam Tape Stops Leaks In Air Handling

● The stopping of leaks in air handling, is one of the uses listed for "Foamade Foam Tape," a new type of polyurethane self-adhesive tape being offered by Foamade Industries, Dept. AHRN, 14851 West Eleven Mile Rd., Oak Park 37, Mich.

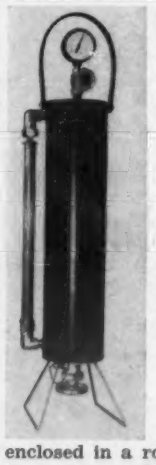
The company said the tape "weatherproofs, seals, insulates, cushions, absorbs sound and shock, and dampens vibration. And once it is applied it does all these things permanently; the resiliency of urethane foam cannot be destroyed by any type of pressure.

"Foamade Foam Tape sticks securely when merely pressed on, yet it may be removed easily and will stick securely again and again. It is water resistant, flame proof, withstands outdoor aging, and is not affected by temperature, humidity, oils, and most chemicals."

More details on the products described on these pages may be obtained by writing the manufacturer at the address given in each story.

Refrigerant Measuring Charging Tubes Offered

● New large capacity precision refrigerant measuring charging tubes, ranging in capacity from 5 lbs to 100 lbs, have been announced by Airserco Mfg. Co., Dept. AH&RN, 435 Melwood Ave., Pittsburgh 13.



These tubes are of steel with a high pressure sight-gauge glass equipped with automatic check valves. The photograph shows the design of the 5 lb and 10 lb steel tubes of the portable type. For these two sizes of tubes, the gauge glass is enclosed in a rotary circular plastic guard, in which is mounted one, two, or three refrigerant scales of the user's choice.

With each charging cylinder, Airserco supplies its new No. 5250 refrigerant measuring tube calibrator which compensates the scale reading for all temperatures ranging from 60°F to 130°.

WATER COOLER
10 GALLON PRESSURE TYPE
*$139.50
*To Dealers Only

Attractive • Sturdy • Economical • Stainless Steel Drain Top • Nickel Finished Copper Cooling Tank • ⅛ h.p. Tecumseh Hermetic Unit • Pre-Cooler • 5-Year Warranty on Refrigeration Cycle • Conforms to Government Specifications •

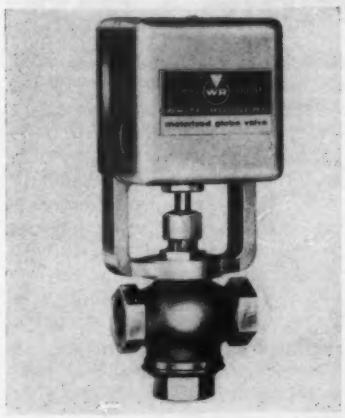
Remcor Products Co.
624 East Grand Avenue, Chicago 11, Illinois
manufacturers of water coolers since 1940

REMCOR
Model CW10A

Also 5 gallon Bottle Water Cooler—*$89.50

Heavy-Duty Motorized Globe Valve Announced

● Addition of a heavy-duty, "no stick" motorized globe valve to its line of hydronic zone controls was announced by White-Rodgers Co., Dept. AH&RN, 9797 Reavis Rd., St. Louis 23.



The automatic controls maker stressed that while the valve's primary use will probably be providing zone control of steam or hot water heating systems, many other types of applications appear to be feasible.

Among them are various uses for flow control of steam, water, oil, or air; control of liquid levels; maintenance of desired pressure conditions; automatic control of a complete process on a time or program basis.

"A powerful, lifetime-lubricated gear-motor operator opens the valve against the rated line pressure, without limitations of pressure imbalance," the company pointed out.

"Models are available for pressures up to 150 lbs psi."

The valves are available in a range of sizes from ½ up to 3 in., either 32 or 139 sec. timing cycle, and in 24, 120, or 240v models. An externally mounted auxiliary switch with S.P.D.T. switch action, adaptable to either line or low voltage installation, is optionally available, according to the valve manufacturer.

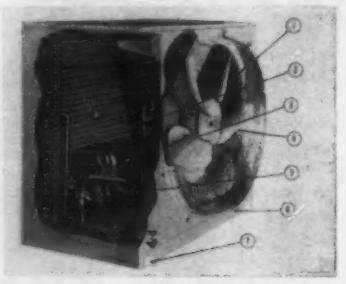
Air-Cooled Units Claim High Cooling Rate

● A Btuh capacity closely approaching water-cooled units of the same horsepower features its new HSA2-1103 air-cooled condensing unit of 11 tons nominal cooling capacity, according to Lennox Industries, Inc., Dept. AH&RN, 200 S. 12th Ave., Marshalltown, Iowa.

The unit is the third member of a family of condensing units which includes a 17-ton and 25-ton product. "Like its predecessors, the 11-ton unit employs large condenser air volume and special coil circuiting to gain maximum capacity," the company said. "The coil circuiting provides a 'subcooling' benefit which delivers liquid refrigerant to the evaporator up to 20° cooler than the evaporating temperature.

"The resiliently mounted compressor is statically and dynamically balanced.

"A full force-feed lubrication system is provided as well as ambient compensated overload protection for the motor windings.



(1) Receiver; (2) condenser; (3) control box; (4) axial flow fan; (5) semi-hermetic compressor; (6) cabinet; (7) crating lugs.

Protection against 'slugging' is afforded by a crankcase heater or 'oil rectifier.'

"The unit may be serviced by removing either end panel and electrical and refrigerant connections are made at central locations on the condenser side of the cabinet. A liquid line dryer is furnished as standard. A tall, vertical receiver is equipped with a purge valve and two liquid-level valves."

Available in a horsepower range from 1/12 through 1/6 HP, low temperature and 1/5 HP high temperature

TRY THIS FOR SIZE!

...SHOWN ACTUAL SIZE, THIS NEW AE-SERIES COMPRESSOR is one of four models currently available, each contained within this one compact shell size. *The smallest compressor on the market today*, the AE measures only 6 11/16" high, with a minimum diameter of 5⅞", a maximum diameter of only 7⅝". This design also features greatly simplified electrical component assembly — a lockwire to secure the overload, a push-on type relay, and a plastic terminal cover held by a spring steel clip. No tools are required to assemble these components. Capacities match those of the Pancake compressors in this horsepower range. With this actual size illustration as your drawing board guide to more effective machine compartment design, wire for detailed information on the new Tecumseh AE compressors at your earliest opportunity.

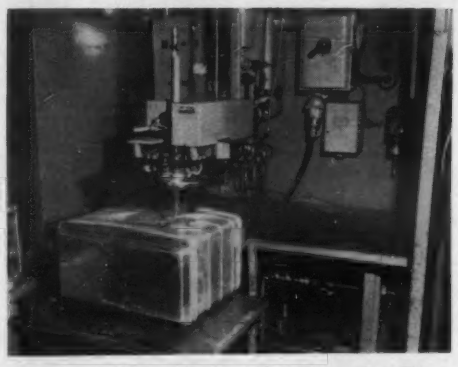
forty two million compressors in the field

TECUMSEH PRODUCTS COMPANY

MARION, OHIO
TECUMSEH, MICHIGAN

FOREIGN OPERATIONS DIVISION: Tecumseh, Michigan · CANADA: Tecumseh Products of Canada, Limited, 185 Ashland Avenue, London, Ont.

Revolving Torches Tumble Costs



HELIARC WELDING joins header to evaporator in one or six revolving-torch fixtures on Hotpoint's refrigerator assembly line.

By W. Twity, Process Engineer, Refrigeration, Hotpoint Div., General Electric Co., Chicago, and W. Purcell, Techanical Sales Representative, Linde Co., Div. of Union Carbide Corp., Chicago

Hotpoint Div., General Electric Co., uses 32 ft of aluminum tubing in its average-size (11 cu ft) refrigerator.

For years, the standard method of welding the many ¼ to 5/16-in. diameter joints had been to rotate the tubing in a mechanized fixture while the welding torch remained stationary. Such fixtures were specialized and expensive, however, and could not readily handle tubing already formed into the shape of an evaporator compartment.

Linde Co. and Hotpoint engineers solved the problem by a new approach to fixturing: revolve the Heliarc welding torch instead of the part. By this method, tubing in any stage of assembly, including coils and assembled components, can easily be mounted in the fixture.

Positive joint alignment and rigid clamping greatly improve joint quality. Torch position and travel speed are critical during welding, because of thin walls (.040 in.) and small diameter of the tubing, yet are easily controlled through precise gear alignment in the fixture. Tig fusion welding with a ¾-turn overlap results in positive tube joints and very low reject rate.

At the first stage of tube welding, copper-aluminum connectors must be attached to the header shell. Male and female "upset" joints are used for added reinforcement at the weld. Shells are type 1100-0 aluminum, ½-in. o.d. at the face.

The Heliarc FSM-5 torch makes the weld at a current of 80 amps a-c, using an argon flow of 13 cu ft per hour. The complete welding cycle requires 9 seconds: preheat (3.5 sec), welding)3.5 sec), and torch return (2 sec). Actual welding speed is 46-50 in. per minute.

At two other tube-welding fixtures, cooling coils and headers are attached to the evaporator. Upset joints are used on all ¼ and 5/16-in. diameter joints, for ease of alignment and protection against burn-through. Three additional Heliarc tube-welding machines complete the tubing assemblies.

Hotpoint's requirement for high-speed, top-quality welds on refrigerator tubing is fully satisfied. These revolving-torch fixtures, are expected to provide reliable production and controlled quality for years to come.

Trane Promotes 5 In La Crosse Manufacturing Div.

LA CROSSE, Wis.—Five promotions in the La Crosse manufacturing division of The Trane Co. were announced by J. D. Cantwell, vice president, La Crosse Mfg.

John Selby was promoted to senior manufacturing engineer, air handling products. He joined Trane during 1957 as manager of the standards and factory cost department.

Werner Deigmann has been named senior manufacturing engineer, refrigeration products. Deigmann joined Trane in 1957.

Edward K. Sanders has been appointed senior manufacturing engineer, branch plant products. He joined Trane as a manufacturing engineer in 1953.

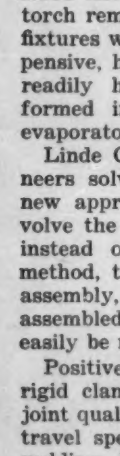
Dale Clausing was promoted to manufacturing engineer—coils. He began working for Trane in 1954.

Lester Nelson was appointed senior manufacturing engineer—reciprocating compressors. He joined the company in 1954.

York Names Marshall Manufacturing V. P.

YORK, Pa.—Robert P. Marshall, a veteran of 25 years in the air conditioning and refrigeration industry, has been named as vice president and manager of manufacturing and materials for the York Div. of Borg-Warner Corp.

He was most recently plant superintendent for The Trane Co. in Clarksville, Tenn. Joseph B. Elliott, president, said Marshall will have responsibility for all manufacturing and material control activities in the division, reporting to the president.



MIGHTY MITE PROTECTS MOTORS Against OVERLOADS OVER VOLTAGE UNDER VOLTAGE

MIGHTY MITE MOTOR PROTECTORS

MECHANICAL INDUSTRIES PRODUCTION CO.
223 Ash Street Akron, Ohio
SAA 3335/948

For Your Reprint Copy

"Emergency-Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Only 25¢ each.

. . . a line of industry-wide favorites, built to make tough applications seem easy

When it comes to building electric motor-powered equipment, *make sure of your horsepower source.* Before you specify any motor brand, consult with your A. O. Smith Motor Man. He'll show you how the horses of A. O. Smith (a full line of integrals and fractionals both polyphase and single-phase) help users surmount application barriers.

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Milwaukee 1, Wisconsin, U. S. A.

TECH CENTER

by FRANK J. VERSAGI

The Role of the Engineer In the Future of Air Conditioning (1)

(From a talk before 68th annual meeting of ASHRAE, Denver)

Ten or twelve years ago a 5-ton air conditioner, installed, cost about $4,500—or $900 a ton. Today a more efficient, more attractive 5-ton unit can be purchased for under $2,300—or about $450 a ton, half the original cost.

You engineers deserve a major share of the credit for this outstanding progress in air conditioning.

While air conditioning sales are climbing gradually, we have less than 10% saturation of the residential market, less than 3% saturation of the industrial market, and an uneven geometric saturation of the commercial market.

You engineers must assume a good share of the blame for the disappointing growth of air conditioning.

It is customary, I know, to blame the salesmen for this disappointing growth curve, and they do deserve their share of criticism. But not all of it—not all of it.

"Nobody is selling air conditioning," we hear. "Who is knocking on doors?" Nobody sells anything any more, gentlemen; admittedly the order takers have taken over. But these order takers sell 5,000,000 cars in what they call a bad year.

That's not a fair comparison, you say. A car is a necessity, not a luxury. All right, let's look at radios. Radio was officially declared dead 10 years ago when it became obvious that TV had been accepted. In 1960, the electronics industry sold 9.2 million radios—not bad for a dead item.

"Air conditioning suffers from sameness," is another criticism we hear. In fact, the gas cooling people are hitting hard on the differences between their units and conventional electrical cooling equipment. That's fine, there's nothing wrong with that. But I cite Volkswagen as an argument that sameness need not be a deterrent to sales. Volkswagen brags that they haven't changed the car much *except for valid engineering improvement* in years.

"We need more advertising, more market research." Well, that will help. But the Edsel was the most thoroughly market researched, promoted, advertised car in history. Obviously, advertising and publicity are not the entire answer.

One last point, "Once people are exposed to air conditioning, they will buy it. They just don't know what comfort they can derive from it."

Honestly, gentlemen, how many people do you know who haven't been exposed to air conditioning in a restaurant, in a department store, a theater, on a limousine ride.

No, it's not that people haven't been exposed to air conditioning. They've experienced it. They've talked about it, and, in the majority, they either dislike it or don't like it enough to think it's worth the cost—first cost and owning cost.

We have created with our free enterprise system a rather highly sophisticated mass market. They won't shy away from a new product just because of price so long as they like it or feel it is useful to them, and if they can expect realistic reliability. The public bought the first ball-point pen for $5.00, even though it soon became obvious that the present prices of 20 cents to a dollar were more realistic.

The present battle of the fuels between gas and electric utilities is due in great part to the fact that the electric utilities were able to create the desire for electric appliances which frequently cost more to buy and more to operate than their gas counterparts.

But—all the promotion in the world hasn't been able to sell color television. One family in our neighborhood has a color set. We've all gone over to see Dinah Shore and Perry Como in color. We've all come away without the slightest desire to own a set. Not because we can't afford it, but because it doesn't offer enough for the money. The picture is not just right; the serviceman comes frequently; the three-electron-gun picture tube is going to cost a mint to replace.

This is a good parallel—color television and air conditioning. The public has been exposed to both; it has found them both lacking.

And it is this lack which brings us to you engineers. Do you talk to the people who use your products? Do you know what they are saying about your brain children? Let me give you some examples.

"Air conditioning stinks."
"It's too noisy."
"It's too cold."
"It's too expensive to own."
"It's unreliable."

"Air conditioning stinks." This is a literal, not a figurative criticism. The stale, eye-smarting odor that comes off a room unit, for example. Right now back in our office in Detroit the girls are complaining about the odors from the room units which supplement our central systems. Shall we explain to them that organic matter occludes on the copper tubing, that aerobic or anaerobic bacteria are involved? My girls don't care. They don't care if you have to permeate the tube with algaecide, if you have to add a reservoir of Chanel #5 somewhere in the air stream, if you have to coat the tube or use another metal. All they ask is why can't air conditioning engineers get rid of that smell.

Walk into a hotel lobby from a nice warm outdoors. How often are you met with a foul mildew odor which contrasts unfavorably with the healthful feeling of outdoors? You can talk all you want about how dirty outside air really is, about how many tons of dirt fall each year per square mile in a city, but some air conditioning engineer has designed or installed a system which is hurting rather than helping the growth of air conditioning.

How about the noise problem? I realize that you are moving to high-speed compressors and toward smaller components in an attempt to reduce the size and total cost of air conditioning, but I can't count the number of times the noise from an air conditioner is mentioned.

Cities are considering codes restricting the sound levels of outdoor condensing units, even of window units facing another residence. What good is it to explain that the A scale is better than the C scale because it weights the values of the frequency bands realistically. Or to explain that really the background noise is above 60 decibels and you only go to 68 decibels with the unit operating; or shall we explain that reaction to sound levels is highly subjective; what is noise to some is merely background sound to others.

While we can continue to say these things, I don't believe it will solve the noise problem.

The too-cold complaint is too old to require much comment, except that you can't expect a consumer to understand that a drugstore or restaurant is too cold because one engineer oversized the units against the advice of one who wanted to control humidity, or that one wanted to size for peak loads while the other for less than peak requirements.

Drafts. How about drafts? I don't know. From a layman's point of view, there doesn't seem to be anything very complex about moving air from one place to another, but it sure is hard to avoid drafts of cold air in a large air conditioned building. Recently, for example, I was in one of the most famous hotels in this country, and cold air pours down on you almost any time you get near the edge of a meeting room or restaurant.

Operating and owning costs. Do you realize the psychological impediment posed by the fear on the part of the homeowner or small businessman of having to replace a 3 or 5-ton compressor? Can you understand the impression on the general public of the air conditioning industry's drive to reduce warranties while auto producers and white goods people and brown goods people are extending their warranties?

Gentlemen, I suggest that the industry's sales people deserve only half the blame for air conditioning's slow growth; engineers must shoulder the other half.

(To Be Continued)

A CASE IN POINT

THIS MAN CHANGED HORSES

Mr. V. F. Radde, President of Skidmore Corporation, reports, "Our condensate pumps are invariably located near boiler rooms and frequently in an atmosphere full of dirt and coal dust. This A. O. Smith motor is the *only* capacitor start motor we've found that we can use in this kind of service."

Sure, we asked Mr. Radde for this testimonial . . . because we knew he had changed horses . . . switched to A. O. Smith motors because of troubles he had experienced with other makes. And more important, he was glad to do so because the sealed-capsule motor had eliminated his problems. In contrast to every other make, the canopy housing totally encloses the starting capacitor, mounting switch, actuator and automatic overload protector from insects, coal dust, dirt and other impurities.

Furthermore, in addition to superior mechanical features, it's a motor designed specifically for centrifugal pump operation . . . higher performance at full and service-factor loads means higher performance for your pump. It adds up! Mechanically and electrically, you get more motor from the same sales dollar when you put your money on the horses of A. O. Smith.

GO-TOGETHERS — Dependable Skidmore condensation pumps powered by A. O. Smith vertical close-coupled pump motors.

Sales up 53% for HEATING Heatwave AIR CONDITIONING dealers!

HERE'S WHY HEATWAVE OUT-PERFORMS 6 TOP 3 h.p. UNITS*

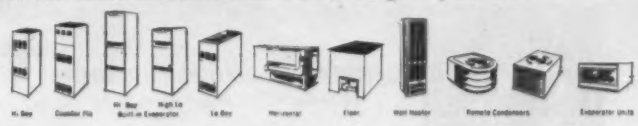
	BRAND A	BRAND G	BRAND L	BRAND P	BRAND W	BRAND Y	HEATWAVE
B.T.U. Output	32,000	36,000	36,000	34,000	37,000	34,000	36,000
KW Input	4.4	5.15	4.51	4.5	5.0	3.96	3.7
Cond. Face Area	4.1	4.8	4.35	3.79	6.8	5.64	5.5
Rows Coil	3	3	3	3	3	3	3

*Specifications as shown in March 7 issue of Air Cond. Heating and Refrig. News-Brand Names on Request.

New Heatwave uses 24.1% LESS electricity and produces 1,167 more BTU's per hour than average of six top brands!

Here's one more reason why Heatwave Air Conditioning sales are up 53%! And you'd expect it too if you could offer your customers famous Heatwave quality with the performance as shown above. Whether it's three h.p. or ten h.p., Heatwave offers maximum performance with minimum operating cost. Why don't you write or wire collect for more information. You'll be glad you did!

SOUTHWEST MFG. CO. AURORA, MISSOURI
Subsidiary of The F. E. Myers and Bro. Co.

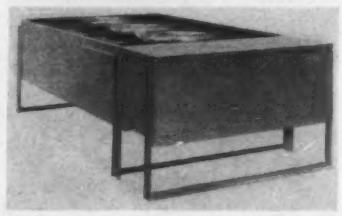


Carrier Indoor, Outdoor Heat Pump Sections for Wide Range of Conditions

SYRACUSE, N. Y. — Carrier Air Conditioning Co. has introduced indoor and outdoor heat pump sections with a nominal capacity of 15 tons designed to meet a wide range of climatic conditions and applications.

"The outdoor section has a low silhouette, only 20¾ in. high, and its legs can be adjusted to heights of 12 to 18 in. so that it is usually invisible from the ground when installed on rooftops," the company said. "Three vertical discharge propeller type fans move 13,000 cfm at a low sound level.

At 95°F outdoor temperature and 67°F wet bulb indoors, the heat pump produces 173,000 Btu of cooling. At 40° outdoor temperature and 70° indoors, it produces 162,000 Btu of heating.



OUTDOOR section Carrier model 38AC016

As many as three accessory electric heaters of 19.1 kw each may be mounted on the fan deck.

"Operating costs are reduced by a defrost cycle that occurs every 60 minutes, but only when outdoor temperatures require it.

"The new exclusive Carrier Time Guard control circuit prevents rapid cycling and extends the life of the compressor. Refrigerant subcooling helps reduce operating cost and enables the outdoor unit to be located as much as 60 ft above or below the indoor unit. This permits the unit to cool and heat the ground floor of many multistory buildings from a rooftop position.

"A condensing pressure control is optional and shuts off one or two outdoor fans so that the unit can be used for cooling during cold weather. The compressor is equipped with a crankcase heater.

"The indoor section can be used with or without ductwork and has a matching plenum for free discharge of air into the conditioned space. Without plenum and with the fan section on top, the unit is 80 in. wide, 63½ in. high, and 29¼ in. deep. With fan section mounted on the back, the dimensions are 80 in. by 46 by 52 in., respectively.

"The cabinet can be mounted vertically or horizontally, suspended from a ceiling or floor mounted."

Republic-Transcon Names J. R. Lockwood

BEVERLY HILLS, Calif. — The appointment of James R. Lockwood as executive vice president and national sales director of Republic - Transcon Industries, Inc., has been announced by Milton J. Stevens, board chairman.

J. Lockwood

Stevens said Lockwood "will have responsibility for developing a national sales and merchandising program that will integrate the new products and new distribution outlets we have taken on with our recent acquisition of The Mathes Co."

Republic-Transcon Industries, a major manufacturer of glass-lined water heaters, major home appliances, and other porcelain enamel products, recently acquired Mathes from Glen Alden Corp., and Western Tire Auto Stores, a chain of over 100 midwest retail automotive and hardware outlets, from Gamble-Skogmo, Inc.

Lockwood was formerly executive vice president of Pioneer Mfg. Co., Inc., Los Angeles.

For Your Reprint Copy

"Short, Short Course in Air Conditioning Fundamentals." By D. C. Schaffer. Mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Only 25¢ each.

Wm. Myler, Jr.

Lee J. Wilcox

Janitrol Names Myler, Wilcox

COLUMBUS, Ohio—Appointment of William M. Myler, Jr., to director of engineering and Lee J. Wilcox to manager design engineering section, of the Janitrol Heating & Air Conditioning Div., Midland - Ross Corp., was announced by Robin A. Bell, division vice president and general manager.

Myler has been with Janitrol since 1928. Wilcox, who has been chief staff engineer, joined Janitrol in 1935.

Amana Names Steele Sales Training Mgr.

AMANA, Iowa—The appointment of H. William Steele as sales training manager for Amana Refrigeration, Inc., was announced by Walter Wendler, vice president, sales.

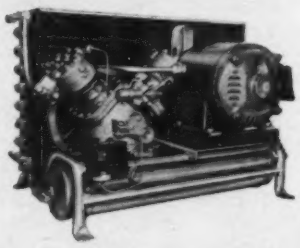
For the past two years Steele has been a regional sales manager for Amana, covering the Oklahoma City area.

SUPERMARKET OWNERS GIVE FOUR REASONS FOR CHOOSING OPEN TYPE COMPRESSORS

In the first part of a study recently published by *Air Conditioning, Heating & Refrigeration News*, a 107-store supermarket chain revealed these reasons for preferring open type equipment:

- Much longer life
- Closer balance between high and low sides, with more satisfactory operating conditions
- More universal applicability—wide range of capacities; compressor displacement adaptable to new load conditions
- Unsurpassed service history according to actual records

FOUR REASONS WHY SUPERMARKET OWNERS CHOOSE LEHIGH OPEN TYPE EQUIPMENT



- LOW COST
- IMMEDIATE DELIVERY
- LONG-TERM DEPENDABILITY
- CONTINUOUS SERVICE

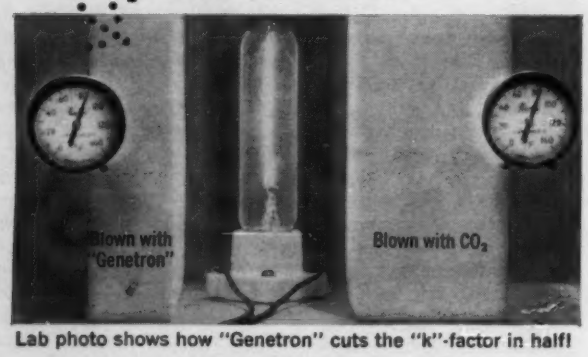
LEHIGH BLU-COLD COMPRESSORS AND CONDENSING UNITS
¼ H.P. to 7½ H.P. ■ AIR—AIR-WATER—WATER

Lehigh BLU-COLD

LEHIGH

LEHIGH MANUFACTURING COMPANY,
Division of Lehigh, Inc., Easton, Pa.
Manufacturers of Hermetic and Open Type Condensing Units; Compressors; Receivers; Condenser Receivers.

REDUCE THICKNESS of urethane *rigid* foams by *half!*



Lab photo shows how "Genetron" cuts the "k"-factor in half!

with genetron® Blowing Agents

Equal insulation, yet half the thickness! "Genetron"-blown urethane foams offer far superior insulation performance – as much as 2 times the insulating value of CO_2-blown foams, and 2½ times that of glass wool batting.

Plus many other advantages: Foams blown with "Genetron" fluorocarbon gases rise at lower temperatures, permit larger forms. They're easier to control – "Genetron" does not react with other constituents. They cure rapidly, even at room temperature . . . and they're safer. "Genetron"-blown foamed-in-place urethanes have all the structural advantages of ordinary urethanes!

Write for our comprehensive technical bulletins, "Genetron Blowing Agents for Rigid Urethane Foam," and "Determining Genetron Content of Rigid Urethane Foam."

Other major components of the urethane foam system produced by Allied Chemical: polyethers and Nacconate® diisocyanates by National Aniline Division; resins by Plastics Division.

Allied Chemical

GENERAL CHEMICAL DIVISION
40 Rector Street, New York 6, N. Y.

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Sure, everybody likes to make a buck go farther. At the Harry Alter Co. we think our prices are *always low.* And everybody big or small, city or country, pays the same fair price. Our transportation allowance saves you even more money. (And if you pick up at one of our 6 counters, you still get this allowance.)

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FREE PARKING AND FAST COUNTER SERVICE AT THESE 4 BIG WAREHOUSES

Plant Vacation Schedule

Final Listing

Company	Shutdown Period Plant	Office	Shipments From Plant
Airtemp Div., Chrysler Corp., Dayton	8/14-8/17		Emergency
Bendix-Westinghouse Automotive Air Brake Co., Evansville, Ind	8/14-8/18	8/14-8/18	Emergency
Bryant Mfg. Co., Indianapolis.	8/14-8/28	8/14-8/28	Emergency
Manitowic Equipment Works, Manitowoc, Wis.	8/14-8/26		Regular
Whirlpool Corp., Evansville, Ind.	8/14-9/4		
St. Paul, Minn.	8/18-9/4		
Wolverine Tube Div. of Calumet & Hecla, Inc., Detroit	8/14-8/27	Open	Stock Only
Continental Air Filters, Inc., Louisville	8/19-9/4	Open	Emergency
Coolstream Corp., Harrington Park, N. J.	8/19-9/4	Open	Stock Only
Ebco Mfg. Co., Columbus, Ohio	8/19-9/4	8/19-9/4	Emergency
General Equipment Mfg. & Sales, Inc., Indianapolis	8/19-9/4	Open	Skeleton Crew
Larkin Coils, Inc., Atlanta	8/19-8/27		Emergency, Stock Only
Typhoon Air Conditioning Div., Hupp Corp., Brooklyn	8/19-9/4	8/19-9/4	Emergency, Stock Only
Addison Products Co., Addison, Mich.	8/20-8/27	Open	Regular
	8/28-9/3	Open	Emergency
Dunham-Bush, Inc., Brunner Div., W. Hartford, Conn.	8/20-9/4	8/20-9/4	Emergency
Heat-X Inc., Brewster, N. Y.	8/20-9/4	8/20-9/4	Emergency
Baltimore Aircoil Co., Inc., Baltimore	8/21-9/2	Open	Stock Only
Chatleff Controls, Inc. Austin, Texas	8/21-9/4		Emergency
General Blower Co., Morton Grove, Ill.	8/21-9/4		Emergency, Stock Only
Heat Controller, Inc., Jackson, Mich.	8/21-8/31	Open	Regular
Ilg Electric Ventilating Co., Chicago	8/21-9/4	8/21-9/4	Stock Only
Kramer Trenton Co., Trenton, N. J.	8/21-9/4	8/21-9/4	Emergency
La Crosse Cooler Co., La Crosse, Wis.	8/21-9/4		Stock Only
McIntire Co., Livington, N. J.	8/21-9/4	Open	Stock Only
Remington Corp., Auburn, N. Y.	8/21-9/4	8/21-9/4	Emergency, Stock Only
Superior Valve & Fittings Co., Pittsburgh	8/21-9/4	8/21-9/4	Emergency, Stock Only
York Div., Borg-Warner Corp., York, Pa.	8/21-8/27	Open	Regular
Roy Follett Corp., Phillipsburg, N. J.	8/26-9/4	Open	Stock Only
Jackes-Evans Mfg. Co., St. Louis	8/28-9/4	Open	Emergency
Lehigh Mfg. Co., Easton, Pa.	8/28-9/4	8/28-9/4	Emergency
Tyler Refrigeration Corp., Niles, Mich.	8/28-8/29	Open	Emergency
Revco, Inc., Deerfield, Mich.	11/12-11/18	Open	Emergency
Council Mfg. Co., Ft. Smith, Ark.	12/15-1/1		Stock Only
Vic Mfg. Co., Minneapolis	12/25-1/1	Open	Regular

Carborundum Names Lear Marketing Vice Pres.

NIAGARA FALLS, N. Y.—Robert W. Lear, director of marketing services, American-Standard, has accepted the position of vice president in charge of marketing for The Carborundum Co. here, according to an announcement by General Clinton F. Robinson, Carborundum president.

Business News Names C. Dale Mericle To Manage Book Div.

DETROIT—In a move to expand its activities in the field of technical books and service manuals, Business News Publishing Co. here has established a Technical Book Div. under the direction of C. Dale Mericle, announces E. L. Henderson, president of the firm which publishes AIR CONDITIONING, HEATING & REFRIGERATION NEWS and AIR ENGINEERING.

The company has long-range plans to publish and distribute new technical books, service manuals, and related material in addition to revising a number of the popular service manuals it has published over the past 30 years, Henderson explained.

Mericle, who will be general manager of the new division, has been associate editor of the NEWS for the past 17 years, during which time he also edited many of the company's service manuals in addition to authoring the four-volume series "Servicing Automobile Air Conditioners."

He is a member of ASHRAE, RSES, and Sigma Delta Chi, national professional journalistic society. Mericle will also continue as associate editor of the NEWS.

Thinking of—

- **changing territories**
- **expanding your territory**
- **taking on new lines—**

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Your opportunity may be there.

MORTITE white CAULKING CORD
Package contains three 16' rolls. ¼" rope-like cords stay permanently pliable.
MORTITE white CAULKING GUM
Comes in pliable 1 lb. slug. Hand molds into beads, wads, gaskets, etc.

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With these sealers, you can finish any caulking job easier, faster, more economically. Get the facts. Mail this coupon today

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O.K., send full information about all Mortell refrigeration products.
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...on RCA WHIRLPOOL appliances helps you improve service, gain customer confidence!

Here's the easy, new way for you to keep abreast of current RCA WHIRLPOOL appliances service information. Just sign up for the monthly mailing service and all the latest data will be brought right to your door by the postman. Look what you can get: Individual model FSP parts lists • Complete service bulletins on FSP parts • New combined model year parts lists • FSP parts master price lists and supplements • Interchangeability reference data • New service manuals • Service pointers • Tool catalogs.

Have the confidence that comes with knowing the full service story before you meet the problem . . . sign up today!

Write to Whirlpool Corporation, Publication Department, Service Center, La Porte, Indiana.

Factory Specification Parts for RCA Whirlpool FSP
HOME APPLIANCES
meet the toughest specifications in the industry

Service Division, Whirlpool Corporation, Administrative Center, Benton Harbor, Mich.

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More Homes Heated by Gas Than Ever Before—AGA

1,171,000 Residential Customers Added In 1960, Figures Indicate

NEW YORK CITY — More homes are being heated with gas in the United States than ever before, according to the American Gas Association, which reports that an additional 1,171,000 customers installed gas heating last year.

There were 21,352,000 customers heating with gas at the close of 1960, an increase of 5.8% over the previous year, according to AGA's annual gas househeating survey.

The survey predicted that in the three-year period ending in 1963, more than 3,564,000 new gas heating customers will be added.

New customers accounted for 62% of the installations of gas heating in 1960. The remaining 38% made conversions from other fuels in existing dwellings. The annual AGA survey made this percentage breakdown nationally and by state for the first time.

NO NATIONAL PATTERN NOTED BY AGA

AGA noted there was no national pattern, and that in some areas conversions outnumbered new installations.

"For example," it was pointed out, "in the East North Central Region, which experienced the greatest growth both in absolute number and in percentage, 61% of the installations were in existing homes. This region, which includes Illinois, Indiana, Michigan, Ohio, and Wisconsin, added 387,000 gas househeating customers in 1960, bringing the total to 4,594,000.

"By contrast in the Pacific region, which includes Alaska, California, Hawaii, Oregon, and Washington, and ranks second in the number of customers added, 93% of installations were in new homes. This area had a total of 196,000 installations, all but 14,000 of them in new homes. There are now 4,360,000 dwellings in the region with gas heat.

"New Jersey, New York, and Pennsylvania, which make up the Middle Atlantic Region, experienced the third greatest gain. In those states, the distribution between new homes and existing homes making installations was much closer than in the other two regions.

"Newly-built homes accounted for 58% of gas heating installations and existing dwelling 42%. The installations added in the region were 152,000, bringing the total number of customers in the three states to 2,523,000.

"Of the total number of residential customers of gas utilities, 69% used gas for heating in 1960, compared to 67% the previous year."

Because of the continuing demand for gas heating, AGA estimated that in 1961, 1962, and 1963, a total of 2,377,000 homes will install gas heating and 1,187,000 existing houses will convert to gas. These figures refer to the number of customers, not the sale of heating units, since some dwellings may have more than one piece of gas heating equipment, especially in the case of the direct space heaters, floor furnaces, or vented recessed wall heaters.

At the close of 1960, complete or partial restrictions on the installation of new gas heating equipment were placed on 37 utilities by state regulating agencies or by the utilities themselves. This is equivalent to 12% of total gas utility residential customers.

A year earlier, gas companies serving nearly 15% of all residential customers had reported some restrictions.

The annual AGA survey was based on reports submitted by nearly 400 companies who were

Anticipated Additional House Heating Customers Of Gas Utilities, By State, 1961-1963

(Thousands of Customers)

	Residential Customers, Dec. 31, 1960(p)			Househeating Customers Added During 1960					
				Total		In Newly-Built Dwelling Units		In Existing Dwelling Units	
	Total	House-heating	Percent[a]	Number	(%)[a]	Number	(%)[a]	Number	(%)[a]
United States	30,832	21,352	69	1,171	(100)	730	(62)	441	(38)
New England	1,531	411	27	34	(100)	13	(38)	21	(62)
Connecticut	352	91	26	8	(100)		(49)		(51)
Maine	31	6	20	b	(100)		(32)		(68)
Massachusetts	947	258	27	23	(100)		(33)		(67)
New Hampshire	36	7	20	1	(100)		(53)		(47)
Rhode Island	149	49	33	2	(100)		(39)		(61)
Vermont	16	b	1	b	(100)		(0)		(100)
Middle Atlantic	7,070	2,533	36	152	(100)	88	(58)	64	(42)
New Jersey	1,375	381	28	39	(100)		(69)		(31)
New York	3,670	997	27	68	(100)		(51)		(49)
Pennsylvania	2,025	1,145	57	45	(100)		(59)		(41)
East North Central	6,903	4,594	67	387	(100)	150	(39)	237	(61)
Illinois	2,175	1,135	52	133	(100)		(30)		(70)
Indiana	731	358	49	55	(100)		(25)		(75)
Michigan	1,407	1,000	71	91	(100)		(34)		(66)
Ohio	2,068	1,845	89	77	(100)		(64)		(36)
Wisconsin	524	256	49	31	(100)		(49)		(51)
West North Central	2,462	2,059	84	94	(100)	49	(52)	45	(48)
Iowa	404	321	79	21	(100)		(39)		(61)
Kansas	489	479	98	8	(100)		(91)		(9)
Minnesota	447	341	76	18	(100)		(57)		(43)
Missouri	771	613	79	22	(100)		(46)		(54)
Nebraska	260	235	90	13	(100)		(64)		(36)
North Dakota	35	21	60	1	(100)		(54)		(46)
South Dakota	56	49	87	2	(100)		(57)		(43)
South Atlantic	2,329	1,578	68	96	(100)	67	(69)	29	(31)
Delaware	62	21	34	3	(100)		(70)		(30)
District of Columbia	159	74	47	3	(100)		(56)		(44)
Florida	213	147	69	10	(100)		(72)		(28)
Georgia	505	447	89	23	(100)		(86)		(14)
Maryland	531	276	52	18	(100)		(83)		(17)
North Carolina	111	70	63	14	(100)		(52)		(48)
South Carolina	84	42	50	7	(100)		(29)		(71)
Virginia	339	196	58	15	(100)		(59)		(41)
West Virginia	225	305	94	3	(100)		(84)		(16)
East South Central	1,376	1,209	88	51	(100)	35	(69)	16	(31)
Alabama	439	359	82	20	(100)		(59)		(41)
Kentucky	399	334	84	15	(100)		(71)		(29)
Mississippi	250	246	98	5	(100)		(76)		(24)
Tennessee	288	270	94	11	(100)		(79)		(21)
West South Central	3,507	3,497	100	102	(100)	96	(94)	6	(6)
Arkansas	286	265	99	9	(100)		(82)		(18)
Louisiana	646	640	99	16	(100)		(86)		(14)
Oklahoma	543	543	100	25	(100)		(99)		(1)
Texas	2,052	2,049	100	52	(100)		(96)		(4)
Mountain	1,165	1,121	96	59	(100)	50	(85)	9	(15)
Arizona	284	268	94	20	(100)		(91)		(9)
Colorado	344	333	97	14	(100)		(91)		(9)
Idaho	22	22	97	5	(100)		(42)		(58)
Montana	107	105	98	3	(100)		(90)		(10)
Nevada	25	22	88	2	(100)		(86)		(14)
New Mexico	161	161	100	5	(100)		(97)		(3)
Utah	163	156	96	8	(100)		(78)		(22)
Wyoming	59	54	93	2	(100)		(93)		(7)
Pacific	4,487	4,360	97	196	(100)	182	(93)	14	(7)
Alaska	Data not available					Data not available			
California	4,265	4,230	99	178	(100)		(98)		(2)
Hawaii	35	0	0	0	-		-		-
Oregon	94	61	65	6	(100)		(43)		(57)
Washington	93	69	74	12	(100)		(49)		(51)

(p) Preliminary.
a. Percentages calculated from unrounded data.
b. Fewer than 500 customers.

* * *

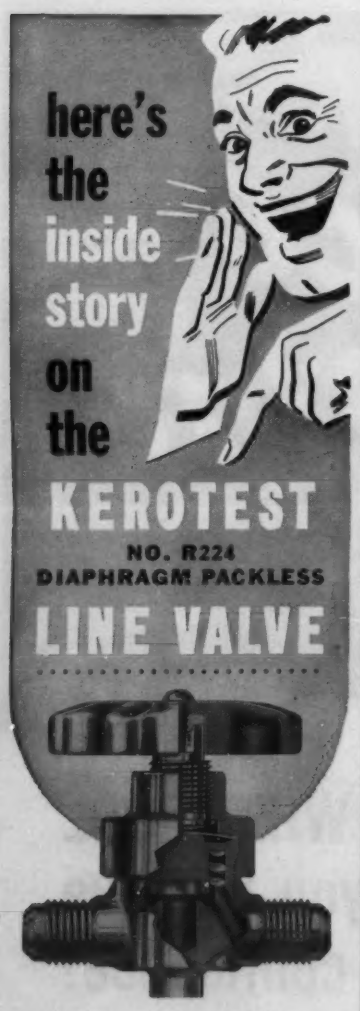
Residential, House Heating Customers of Gas Utilities By State, Dec. 31, 1960

(By Thousands of Customers)

		1961 Anticipated Additions	
	Total	In Newly-Built Dwelling Units	In Existing Dwelling Units
United States[a]	1,213	763	455
New England	39	13	26
Connecticut	9	4	5
Maine	b	b	b
Massachusetts	24	7	17
New Hampshire	1	b	1
Rhode Island	5	2	3
Vermont	0	0	0
Middle Atlantic	145	89	76
New Jersey	41	27	14
New York	74	35	39
Pennsylvania	30	27	23
East North Central	264	170	194
Illinois	133	51	71
Indiana	46	18	28
Michigan	80	32	48
Ohio	60	31	18
Wisconsin	47	18	29
West North Central	119	80	40
Iowa	30	8	21
Kansas	7	6	1
Minnesota	27	10	17
Missouri	39	17	23
Nebraska	9	6	3
North Dakota	5	1	4
South Dakota	3	2	1
South Atlantic	105	72	33
Delaware	2	1	1
District of Columbia	3	1	2
Florida	17	9	8
Georgia	25	20	5
Maryland	21	17	4
North Carolina	11	6	5
South Carolina	7	3	4
Virginia	15	13	2
West Virginia	4	2	2
East South Central	51	36	15
Alabama	15	11	4
Kentucky	14	10	4
Mississippi	8	7	1
Tennessee	13	9	4
West South Central	107	97	10
Arkansas	10	8	2
Louisiana	18	15	3
Oklahoma	14	14	b
Texas	65	60	5
Mountain	70	58	12
Arizona	21	19	2
Colorado	16	13	3
Idaho	6	2	4
Montana	4	4	b
Nevada	3	3	0
New Mexico	9	9	b
Utah	8	6	2
Wyoming	3	2	1
Pacific[b]	198	178	20
Alaska	Data not available		
California	175	169	6
Hawaii	0	0	0
Oregon	7	3	4
Washington	16	6	10

a. Excludes Alaska.
b. Fewer than 500 customers.

here's the inside story on the KEROTEST NO. R224 DIAPHRAGM PACKLESS LINE VALVE



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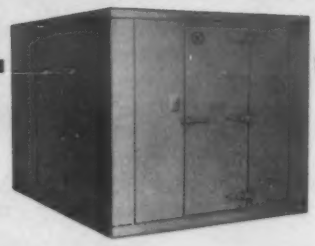

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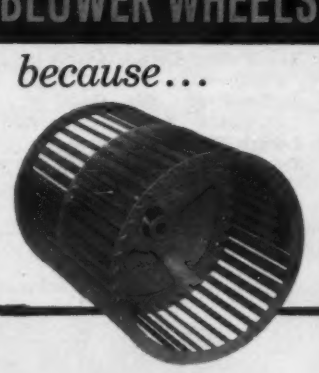

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serving 29.7 million residential gas customers in the U. S. at the close of 1960. "These companies represent 96% of the industry's total customers," it was stated.

"Data submitted by individual companies indicated the number of residential users and heating customers, anticipated new installations, and the existence or absence of heating restrictions. Industry totals were developed from these reports and from estimates for non-responding companies, and thus represent the entire gas utility industry."

Troubleshooting Lecture Draws 50 Servicemen

VALLEY STREAM, N. Y. — The first of a series of Sid Harvey's troubleshooting lectures, given on combustion relays, was attended by over 50 servicemen from the Jersey Shore area, the company reported.

Among other things, the lecture explains how to check out any relay in the field, in minutes, without instruments, it was pointed out. The lecture was given by Robert Mitchell, president, Sid Harvey of N. J., in Eatontown, N. J.

The second lecture to be given by Mitchell will be on Oil-O-Matic low-pressure models, and scheduled for July 25 at the Lawrence Rd. Fire House, on Route 206, Lawrence Township, N. J. It explains how to spot and correct trouble on Oil-O-Matic "K" series and 5010 burners.

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Findings of Hydronics Research By IBR and University of Illinois

URBANA, Ill. — Addition of floor coverings to bare floor panels heated with radiant coils reduces the ability of the hydronics system to maintain a constant room temperature.

The actual reduction in fuel consumption — when unused rooms are closed off — is materially less than anticipated.

These are two of the findings concerning hydronics systems studied in a cooperative research program of the Institute of Boiler & Radiator Manufacturers and the University of Illinois Engineering Experiment Station.

The university has issued a report, "Summary of Cooperative Research on Hydronic Heating and Cooling," in which the findings are listed with description of test procedures.

Another result listed in the study of covered and uncovered floor panels: "Because of the large increase in water temperature required when carpeting is applied over floor panels, it may be impossible to balance floor panel systems in which carpeting is used in some rooms only, unless the piping is arranged to permit zoning with the use of more than one water temperature."

Also: "Floor coverings such as asphalt tile or rubber tile which have a thermal resistance of less than 0.2 had a negligible effect on the performance of floor panel systems.

"The relative humidity in the room which had a carpet and pad was consistently greater than the room with the asphalt tile, indicating that there was probably more water vapor coming through the concrete floor slab in this room."

The section of the report dealing with the study of fuel consumption when some rooms are unused concluded, "Any broad generalization that closing of rooms will result in material reductions in fuel consumption must be regarded with some caution."

Discussing the result on fuel consumption of the habit of night turndown of the thermostat: "Reducing the thermostat setting at night, but leaving all the windows closed, resulted in a daily savings of fuel of about 5%." (Night setback, with bedroom windows, open, resulted in no fuel savings.)

Turning to cooling: "Continuous operation of a kitchen exhaust fan having a free air delivery of 430 cfm increased the maximum cooling load by about 25% and increased the daily cost of operation by about 10%."

Another finding: "Room units (hydronic) designed for both summer and winter operation maintained satisfactory room air temperature and humidity during the summer, but winter performance was not as satisfactory as the performance of hot water baseboard heating system."

The research report covers some 30 separate studies, everything from gravity hot water systems to snow melting.

Dunham-Bush Issues Unit Heater Manual

WEST HARTFORD, Conn.— A unit heater application manual has been made available by Dunham-Bush, Inc., here.

The manual (No. 1395-C) is one of 10 chapters of "Application Engineering" ranging from the basics of hydronics through complete engineered systems. The books are designed as a reference for consulting engineers and are a means of further education for contractors and wholesalers, the company noted.

'20th Century' Homes Will Have Airtemp Heating Equipment

DAYTON — Chrysler's Airtemp Div. will provide all of the heating equipment for the new line of "20th Century" homes manufactured by Scholz Homes, Inc., of Toledo.

The 20th Century home series is priced to sell from $8,995 up to $16,950, less lot. Chrysler's "Lo Hi-Boy" gas-fired furnace model 4210-2 or the counter-flow model 4308-3 will be standard equipment in the homes, according Scholz. Chrysler central air conditioning equipment will be available as an optional choice to the homeowners.

Scholz added that he strongly recommended the use of Chrysler heating and air conditioning equipment in all other models of his homes. Scholz is currently manufacturing 67 different models in their custom lines ranging from $15,000 to $90,000, less lot.

In addition to the 20th Century series, Scholz will build 500 "Mark Series" model homes for which he has recommended the use of Chrysler central heating and air conditioning equipment.

Thomas W. Kirby, vice president-marketing for the Airtemp Div., said representatives have begun contacting the various Scholz builders to familiarize them with Chrysler heating and air conditioning products.

He said that Chrysler distributors and dealers have been notified of Scholz' recommendations to builder-dealers and that they were being provided with a list of Scholz builders. It will then be up to the Chrysler distributors and dealers to contact the builders.

A-B

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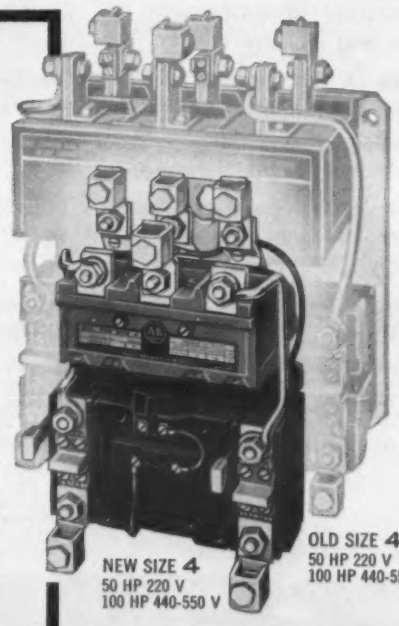

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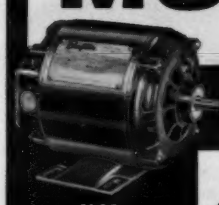

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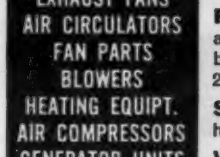

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AUGUST 7, 1961

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Unitary Air Conditioner Shipments For First Quarter

(See Story on Page 1)

ARI UNITARY AIR-CONDITIONER SECTION'S CONDENSED SUMMARY BY SIZE OF MANUFACTURERS' SHIPMENTS JANUARY-MARCH, 1961 (3 Months)

Size	—By Condenser Type— Air or Evaporatively Cooled	Water Cooled	Total Units	% Change from 1960
Under 27,000 Btu/hr.	15,793	25	15,818	+ 87
27,000-32,999 Btu/hr.	6,007	3	6,010	+ 30
33,000-41,999 Btu/hr.	23,777	1,158	24,935	+ 22
42,000-53,999 Btu/hr.	9,570	1,026	10,596	+ 28
54,000-64,999 Btu/hr.	6,986	2,239	9,225	— 17
65,000-96,999 Btu/hr.	3,755	1,375	5,130	+ 1
97,000-134,999 Btu/hr.	2,174	1,015	3,189	+ 29
135,000-184,999 Btu/hr.	779	481	1,260	+ 24
185,000-249,999 Btu/hr.	310	392	702	+ 6
250,000-319,999 Btu/hr.	42	249	291	— 25
320,000-379,999 Btu/hr.	43	171	214	— 31
380,000 Btu/hr. and over	32	149	181	+129
Total	**69,268**	**8,283**	**77,551**	+ 23

This condensed summary by size includes shipments of:

1. Air conditioners (except window and wall types) with or without condensers and refrigeration chassis.
2. Year-round air conditioners—with or without condensers.
3. Heat pumps (except room air conditioners), self-contained and other than self-contained.
4. Split systems—air conditioning condensing units **only**. It does **not** include shipments of air conditioning coils with or without blowers.

EXPORT SHIPMENTS—The total figure includes export shipments of 1,782 units.

* * *

Reporting companies (59): Air Conditioning, Inc.; Airtemp Div., Chrysler Corp.; Albion Div., McCraw-Edison Co.; Amana Refrigeration, Inc.; American Furnace Co.; American-Standard Air Conditioning Div.; American-Standard Industrial Div.; Arkla Air Conditioning Corp.; Armstrong Furnace Co.; Carrier Air Conditioning Co. (incl. all mfg. div.); Cleveland Steel Products Corp.; Cobell Industrial, Inc.; Coleman Co., Inc., The; Columbia Specialty Co., Inc.; Crane Co., Air-Conditioning Div.; Curtis Mfg. Co.

Fedders Corp.; Forston Co., The; Fraser & Johnston Co.; Frick Co., Inc.; Friedrich Refrigerators, Inc.; Gaffers & Sattler Div., Utility Appliance Corp.; General Electric Co.; Goettl Brothers, Metal Products, Inc.; Heat-X, Inc.; Heil-Quaker Corp.; Holly-General Co.; Hupp—Perfection Div., Typhoon Air Conditioning Div., Typhoon Heat Pump Div.

International Metal Products Div.; Iron Fireman Mfg. Co.; Janitrol Heating & Air Conditioning Div.; Laurel Products Corp.; Lennox Industries, Inc.; Majestic Co., Inc., The; Mathes Co., The; Melchior, Armstrong, Dessau Co., Inc.; Miami Products, Inc.; Mueller Climatrol Div., Worthington Corp.; National Thermatic Corp.; Olsen Mfg. Co., The C. A.; Peerless Corp.; Rheem Mfg. Co.

Southwest Mfg. Co.; Stewart-Warner Corp., U. S. Machine Div.; Texas Products Mfg. Co.; Thatcher Furnace Co.; Therm-Air Mfg. Co.; Trane Co., The; Tuck-aire Furnace Co.; United States Air Conditioning Corp.; Welbilt Air-Conditioning & Heating Corp.; Westinghouse Electric Corp.; Williamson Co.; Worthington Corp.; Wright-Temp Mfg. Co.; York Div. of Borg-Warner Corp.; Zink, John, Co.

May Gas Heating Equipment Sales--

(Continued from Page 1, Col. 1)

2.8% more than were dispatched in May of 1960. In the first five months of this year 313,300 gas furnaces were shipped, 0.5% less than were sold in the same period of last year.

Sales of gas boilers made the strongest recovery from recent months of depressed business, it was noted. May shipments numbered 10,920 units, a jump of 17.8% from the May, 1960 amount, 9,270. The five-month totals for this equipment were 43,739 last year and 45,545 this year, a gain of 4.1%.

Gas conversion burner manufacturers reported their unit shipments amounted to 7,500 in May, 2.6% less than the 7,700 dispatched in May of last year. Five-month totals for this equipment were 38,600 last year and 30,200 this year, a decline of 21.8%.

The May combined shipments for the three types of gas central heating equipment were 83,670 last year and 87,020 this year, an increase of 4%. The five-month totals for the three types were 397,239 last year and 389,045 this year, for a 2.1% decrease.

GAMA's monthly telegraphic survey of heating equipment manufacturers revealed that May and five-month shipment figures for other types of gas-fired products were as follows:

Vented recessed wall heaters—May shipments amounted to 25,000 units, down 3.1% from a year ago, when 25,800 were dispatched. In the first five months of this year, 125,400 units were sent to market, a 6.7% decline from the 134,400 units shipped in the same period of last year.

Room heaters and other types of gas direct heating equipment—This year's unit shipments were 52,100 in May and 258,600 for the five-month period, down 25.3 and 10.7%, respectively, from last year's 69,700 and 289,500.

Gas floor furnaces—May unit sales, 4,500, were 10% less than the 5,000 units reported for May, 1960. This year's five-month total, 22,100, was 16.6% under last year's 26,500.

Gas unit heaters and duct furnaces—Shipments of this equipment, which is used for commercial and industrial applications, numbered 9,700 in May, 2% less than the 9,900 units dispatched in the same month of last year. The 1961 five-month total was 58,800, a decline of 6.4% from last year's 62,800.

NWAHACA Research--

(Continued from Page 1, Col. 1)

instrumentation, for the testing, and for writing of reports.

A house has been selected, furnished by Art Sassone of Campbell, a home building contractor. Sheet metal contractor is John H. Plog of Campbell.

Target date for start of construction is Aug. 1. Three months are planned for construction and instrumentation.

The house to be built sells for $24,250. It is a three-bedroom, two-bathroom California style home with large glass areas.

8 Problems

Roland R. Taylor, trustee from the west coast to the board of NWAHACA, said the Western Research Committee would like to develop eight research problems with San Jose State, as follows:

1. Control of heating and cooling equipment at partial load conditions.
2. Comparison of performance of three types of distribution systems, commonly used in crawl-space homes in mild climate areas. Two are perimeter systems, the ducted radial system, and the crawl-space plenum system. Third system type utilizes high inside-wall outlets.
3. Crawl space construction as related to moisture problems.
4. Requirements for insulating crawl space ductwork in vented crawl space.
5. Soil temperatures. Need in mild climate areas for perimeter-edge insulation of heated concrete slab floors has been questioned.
6. Effect of supply-air velocity on air motion across floor.
7. Return-intake location and sizing.
8. System selection guide. Factors to be considered in selection.

Taylor reported industry-wide interest in the new project.

Builders are interested and are cooperating by assisting in the expense of furnishing a home built to meet requirements of the project.

Federal Housing Administration is interested because it will get certain experimental data on which to base requirements for mild-climate conditions.

Manufacturers are interested because of the application of their equipment.

National Warm Air's research started 41 years ago at the University of Illinois. There is no research anywhere else, except surveys made with the mobile laboratory.

Research at San Jose State college is the first conducted elsewhere, and is the first in the mild climate field, Taylor said, except by the mobile laboratory.

San Jose is a metropolitan center which is a part of the greater bay area, located 50 miles south of San Francisco. The college is just completing a 10½ million dollar addition to its laboratories and classrooms.

Won't Duplicate Illinois Research

There will be no duplication of research already covered at University of Illinois. The Western Research Committee is interested only in those problems which have not been, or cannot be, researched in a cold climate.

The committee is in direct touch with the San Jose State project and will work under the Research Advisory Council of NWAHACA, and under Norman Buckley, chairman of the council's University Research Committee.

Western Research Committee members are:

Larry Biggle, General Controls Co.; Art Horne, Day & Night Mfg. Co., division of Carrier Corp.; George Aronovsky, Tuck-Aire Furnace Co.; Stan Skafte, Utility Appliance Corp.; Charles Conrad, Heating-Air Conditioning Institute of Northern California; Russell Davis, in charge of heating installations on the west coast for Federal Housing Administration; Robert Boyer, Minneapolis - Honeywell Regulator Co.; A. E. Baak, Cam-Stat, Inc.

'One Wheel In the Door'

THE NEW DAY & NIGHT "Duopac" year-round air conditioner for outdoor installation is introduced personally at the doorstep of dealers, distributors, architects, and builders. A small fleet of two-wheel trailers and a "Ranchero" pick-up truck are used to do the job throughout the country. Side and top panels on the Duopac are replaced with plastic to show how the unit contains a full-size gas furnace and an electric air conditioner within its small dimensions. In transit, the unit is protected by an eye-catching cover of gold plastic. The front of the trailer is equipped with a levelizing jack and wheel. For group meetings, the trailer is unhitched and rolled inside the meeting room for the more standard product presentation.

Silver Shield--

(Continued from Page 1, Col. 2)

in a number of additional cities.

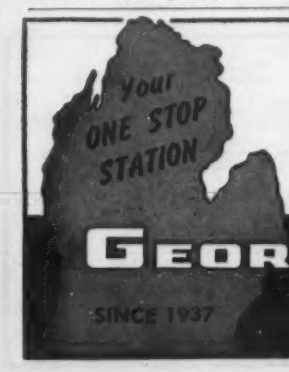
The Atlanta Indoor Comfort Bureau recently set a new record in student enrollment for the 12-week Silver Shield technical training course, with 153 men taking the course. The previous record was held by Kansas City, with 144 men enrolled for technical training.

Approximately 100 dealer-contractors, utility representatives, and civic leaders were on hand at Shreveport last month for the official licensing of the Ark-La-Tex Indoor Comfort Bureau there.

Clyde H. Wilkinson, president of the American-Standard Air Conditioning Div. and member of the association's Board of Trustees, presented the operating license. Durward W. Aiken, Jr., Dixie-aire Air Conditioning Co., Inc., is the president of the new bureau.

In Kansas City, a Code of Ethical Practices has been drawn up by the Indoor Comfort Bureau, with a preliminary statement presented to members.

Representatives of NWAHACA have logged 65,000 miles of air travel to date in 1961 to assist with the organization of Indoor Comfort Bureau.



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AIR CONDITIONING—HEATING
and REFRIGERATION needs
WHOLESALE DISTRIBUTORS THROUGHOUT MICHIGAN

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GRAND RAPIDS, GL 9-4553

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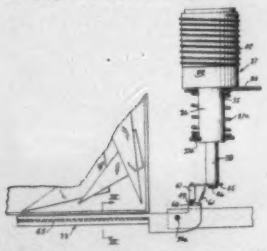
New epoxy-clad coils are line-tested at 2300 volts completely submerged in water. Eliminate coil failure! Impervious to almost anything and everything—condensation, fluid spray, frost, oil, gasoline and other corrosive liquids and vapors. Unlimited indoor or outdoor applications. U.L. listed. Wire, write, or phone:

CONTROLS DIVISION JACKES EVANS MFG. CO.
4427 GERALDINE AVENUE • ST. LOUIS 15, MO.

PATENTS

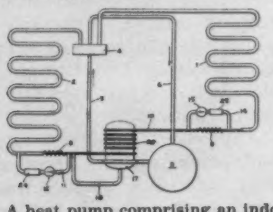
Week of April 4

2,977,772. ICE LEVEL SENSING MECHANISM. Robert H. Dawson, Lake Bluff, Ill., assignor to The Dole Valve Co., Morton Grove, Ill.



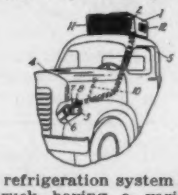
1. Switch control means sensitive to the level of solids within a tray comprising a support, a sensing element pivotally mounted on said support and positioned for pivotal sweeping movement across the tray, a reciprocably movable power element mounted on said support, a switch mounted on one of said elements having a depressible actuating plunger extending therefrom positioned to abut the other of said elements, means biasing said elements toward one another adjacent said switch to effect depression of said plunger. . . .

2,977,773. HEAT PUMP INCLUDING CHARGE MODULATING MEANS. Scipio de Kanter, Tyler, Texas, assignor to General Electric Co.



1. A heat pump comprising an indoor heat exchanger and an outdoor heat exchanger connected in a closed refrigerant circuit; means in said circuit including a compressor having a discharge line and a suction line and reversing valve means for reversibly connecting said discharge and suction lines to said heat exchangers for effecting flow of refrigerant through said circuit in either direction whereby said pump may be operated on a cooling cycle with the outdoor coil functioning as a condenser and receiving high pressure refrigerant from said compressor and on a heating cycle with the indoor coil functioning as a condenser and receiving high pressure refrigerant from said compressor. . . .

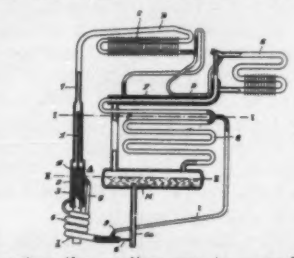
2,977,774. AIR CONDITIONING UNIT FOR MOTOR VEHICLES. David R. Ferris, Cadillac, Mich., assignor to Kysor Heater Co., Cadillac, Mich.



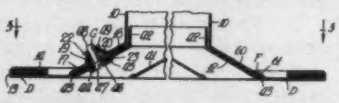
1. A refrigeration system for the cab of a truck having a variable speed engine comprising, a compressor mounted in the engine compartment of the truck, an electrically actuated clutch connected to drivingly connect said engine to said compressor, a casing mounted on top of said truck and having a condenser opening through the forward wall of the casing to be subject to the air flow caused by forward movement of the truck, a pair of fans mounted to draw air through said condenser in the same direction as said air flow, walls forming a cooling chamber in said casing and having an evaporator extending transversely of the chamber with an inlet opening from said cab to one side of the evaporator. . . .

2,977,775. ABSORPTION REFRIGERATOR. Kazumi Tamada, Chita-cho, Chita-gun, and Keisuke Ota, Showa-ku, Nagoya-shi, Aichi-ken, Japan, assignors to Howa Sangyo Kabushiki Kaisha, Nagoya-shi, Japan.

In an absorption refrigerator in which a combination of inert and cooling gases and an absorption liquid for absorbing the cooling gas in a strong solution is circulated in a refrigerating cycle, said refrigerator having a generator for circulating the absorption liquid and for separating the cooling gas therefrom, a condenser for condensing the cooling gas to a cooling liquid, an evaporator for evaporating the cooling liquid to provide refrigeration, an absorber for returning the cooling gas into the absorption liquid thus forming strong solution, and a reservoir for receiving said strong solution from the absorber, an improved generator comprising in combination; a substantially vertical heating cylinder for circumferential radiant heating, a tubular boiler having upper and lower ends and enclosing the upper portion of said heating cylinder and being heated thereby. . . .

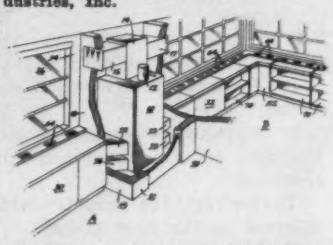


2,977,869. REMOVABLE CORE AIR DIFFUSERS. Cortland H. O'Day, Port Washington, N. Y. (c/o Air Devices, Inc., 17 E. 42nd St., New York, N. Y.)



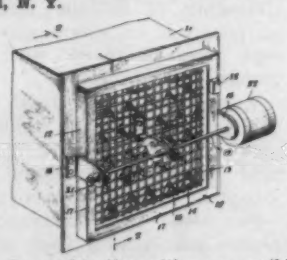
A removable and replaceable core ceiling air diffuser having a square frame to contact and rest against the ceiling, said frame having a square opening with an inwardly converging frustro pyramidal throat serving as a nest-like receptacle, an inwardly directed conduit connected to the most inward narrowest portion of said throat, a removable core having a frustro pyramidal outer shell closely fitting into and clamped against the interior of said receptacle. . . .

2,977,870. AIR DISTRIBUTION SYSTEM FOR HEATING, COOLING, AND VENTILATING. Henry C. Bierwirth and Norman L. Rutgers, Marshalltown, Iowa, assignors to Lennox Industries, Inc.



1. An air distribution system for an elongated wall of a room, comprising tubular duct means adapted to extend along substantially the full length of the wall and having an air supply inlet at its one end and being closed at its remote other end, air supply means operative to introduce treated air under a velocity pressure into said duct at its inlet end only, whereby said air is confined within the full length of said duct to establish a predetermined static pressure therein, said duct having a plurality of vent openings disposed at spaced points along the full upper surface thereof. . . .

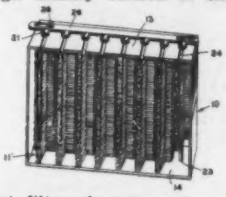
2,978,067. ACTUATING MEANS FOR EXPANSIBLE FILTERS. William Ansel Tuthill, Westhampton Beach, N. Y., assignor to Flanders Mill, Inc., Riverhead, N. Y.



1. In combination with an expansible air filter having an upstream side face and a downstream side face, shiftable means coupled with and extending from said filter for permitting the expansion of said filter upon the shifting of said means, movable means operatively associated with a surface of said shiftable means and movable about an axis substantially parallel to a major portion of said upstream side face and downstream side face. . . .

2,978,068. VARIABLE DENSITY AIR FILTER PANEL. Alfred J. Pierfederici, South Plainfield, N. J., assignor to Purolator Products, Inc., Rahway, N. J.

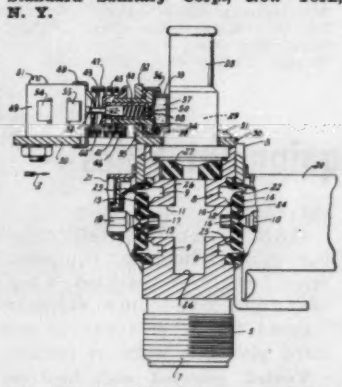
1. A gas filter comprising a frame having an open front and back, a plurality of laterally spaced filter elements independently mounted therein, each said element having a high density and a low density section thereon out of alignment with said high density section, each said high density section being disposed thereon in alignment with the high density section of the next adjacent filter element, and each said low density section being disposed thereon for lateral alignment with the low density section of the next adjacent filter element transversely of said open front to filter gas passed therethrough. . . .



Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

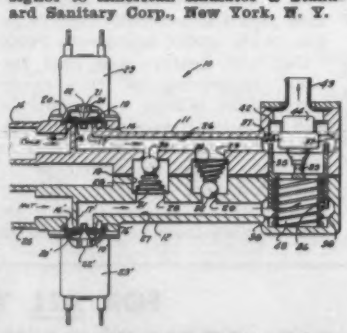
Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Address orders to: Commissioner of Patents, Washington 25, D. C.

2,978,181. THERMOSTATIC MIXING VALVE AND POWER ELEMENT CONSTRUCTION. Thomas E. Noakes, Detroit, Mich., assignor, by mesne assignments, to American Radiator & Standard Sanitary Corp., New York, N. Y.



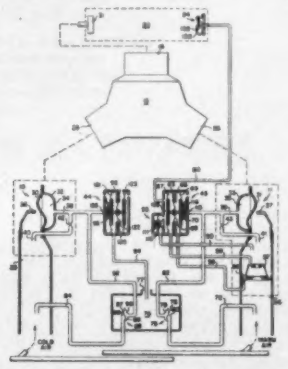
1. The combination comprising a valve housing internally contoured to define a hot fluid inlet chamber, a cold fluid inlet chamber, a mixing chamber communicating with both of said inlet chambers, and an outlet chamber downstream from the mixing chamber; a diaphragm for releasably closing said mixing chamber to said hot fluid chamber; solenoid means for controlling the position of said diaphragm; a second diaphragm for releasably closing said mixing chamber to said cold fluid chamber; second solenoid means for controlling the position of said second diaphragm; a thermostatic power element casing positioned against the wall of said outlet chamber. . . .

2,978,182. THREE TEMPERATURE MIXING VALVE. John Sigfrid Ameus, Grosse Pointe Woods, Mich., assignor to American Radiator & Standard Sanitary Corp., New York, N. Y.



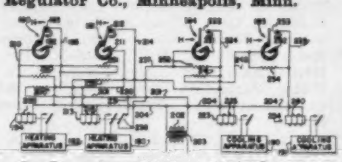
1. A mixing valve comprising a housing formed with a mixing chamber; separate hot and cold fluid inlet passages leading to said mixing chamber; valve means in said mixing chamber for alternately opening said chamber to respective ones of the hot and cold fluid passages; thermostatic power means responsive to the fluid temperature in the mixing chamber for operating the valve means to open the cold fluid passage on temperature increase and open the hot fluid passage on temperature decrease; conduit means interconnecting said hot fluid passage with said cold fluid passage upstream from the mixing chamber. . . .

2,978,183. AIR CONDITIONING APPARATUS HAVING REMOTE PILOT CONDITION SENSORS. Lawrence E. Donahue, Mount Prospect, Ill., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.



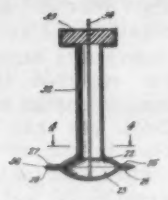
1. In an air conditioning system, a mixing chamber adapted to be connected to a space to be air conditioned and including a pair of inlets each containing a self contained diaphragm valve, a source of temperature changing medium connected to each of said valves and adapted to supply temperature changing mediums at different temperatures to said mixing chamber, conduit means positioned at the inlets to said mixing chamber for supplying temperature changing medium from said source to the operating chamber of said valves for operation of each of said valves, a pair of pneumatic relay means connected respectively to said supply conduit means for controlling the operation of said valves by varying a branch pressure in said conduit means, a pilot chamber means simulating said mixing chamber and positioned remote from said mixing chamber. . . .

2,978,223. CONTROL APPARATUS. Elmer A. Carlson, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.



8. In a temperature control apparatus for controlling a plurality of heating and cooling devices, first temperature responsive means adapted to control a first of the heating devices, second temperature responsive means adapted to control a second of the heating devices, third temperature responsive means adapted to control a first of the cooling devices, fourth temperature responsive means adapted to control a second of the cooling devices, heating means associated with each of said temperature responsive means, means including said heating means of said second, third and fourth responsive means for raising the control points of said last mentioned responsive means during the operating range of said first responsive means. . . .

2,978,527. RAPID-RESPONSE THERMOELECTRIC GENERATOR. Milton N. Forde, Woodbridge, Conn., assignor to Lewis Engineering Co., Naugatuck, Conn.



1. A rapid response thermocouple comprising two plates disposed broadside to each other and adapted to be exposed to heat, said plates being of dissimilar materials and having outer, peripheral, mutually contacting portions of commensurate thickness which are fused together, the contacting and fused surfaces of said portions being integral with the inner portions of the plates and said contacting portions having tapered edges terminating in a long, sharp, common peripheral edge located at the said fused surfaces; electrical connector means connected to the said plates. . . .

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RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

YOUNG MAN age 27. Married. Has degree in air conditioning and refrigeration engineering. Experienced in test work and teaching, also in installation and service. Interested in position with promising future. Will relocate. For further information contact DONALD BEHNKE, 94 Ridgeway Drive, Decatur, Illinois. Phone 422-2183.

POSITIONS AVAILABLE

NEED EXPERIENCED wholesale salesman. Would prefer a Carrier background. Have excellent proven territory open, covering Tulsa, Oklahoma, and small surrounding area. Submit application with full details to: Mr. Jim Fields, SWAN-SIGLER, INC., 4601 N. Santa Fe, Oklahoma City, Oklahoma.

COMMERCIAL REFRIGERATION food market equipment manufacturer seeking representation in following states: Minnesota, Kansas, Illinois, S. California. We offer complete line of commercial refrigeration with excellent income potential. Send resume. BOX A6813, Air Conditioning, Heating & Refrigeration News.

FAMILY-OWNED distributorship in ideal area, looking for currently employed office manager with heating and air conditioning wholesale background. Sales ability a desirable extra, but not mandatory. All replies kept in strict confidence. BOX A6814, Air Conditioning, Heating & Refrigeration News.

EQUIPMENT FOR SALE

ATTENTION REFRIGERATION Servicemen. Send for catalog listing values in refrigeration and air conditioning parts, relays, capacitors, compressors. Savings up to 50%. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

MISCELLANEOUS

SERVICING AUTO air conditioners? Then you'll save time and earn more money if you are fully informed on all types of systems on the market. They're described fully in "Servicing Automobile Air Conditioners" available in four volumes covering models from 1954 through 1959. Vols. 1, 2, and 4 are $2 each; Vol. 3 is only $1. See your wholesaler or order from BUSINESS NEWS PUBLISHING CO., Dept. B, 450 W. Fort, Detroit 26, Mich.

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Current Literature

Electrical Quiz

NEW YORK CITY — A new book, "1540 Questions and Answers for Electricians," has been announced by Arco Publishing Co., 480 Lexington Ave., New York City 17.

"All the multiple choice questions are drawn from actual examinations taken by professional electricians on various levels of competence," the company said. "As a result, it represents the pooled judgment of examiners as to what electrical work means and what an electrician should know."

The book contains 180 pages, 8 by 10-in. size, and sells for $3. It may be bought at bookstores or by sending a check or money order for $3 direct to Arco Publishing.

Reciprocating Systems

LA CROSSE, Wis.—A revised edition—the 22nd printing—of the Reciprocating Refrigeration Manual has been published by The Trane Co.

The handbook contains a rewritten and expanded section of pipe-sizing tables and data on the basic properties of saturated Refrigerant-12 and Refrigerant-22. This refrigeration information includes pertinent details on unloading mechanisms and thermostatic expansion valve tables.

Copies of the manual can be obtained for $2.50 by writing The Trane Co., La Crosse, Wis.

Methyl Chloride

MARINETTE, Wis. — The storage, transfer, and measurement of methyl chloride are covered in a new bulletin issued by the Chemical Products Div., Ansul Chemical Co., here.

The company points out that the bulletin applies equally well to other liquefied gases.

Among the subjects dealt with in the 14-page publication are: "Handling and Supporting Cylinders," "Emergency Handling of Leaking Containers," "Handling the 1,300-lb Container," "Pressure in a Container," "Transfer by Heat," and "Transfer by Compressor."

Truck, Trailer Units

MINNEAPOLIS — Thermo King Corp., 314 W. 90th St., Minneapolis 20, has prepared a folder on its line of truck and trailer refrigeration units.

The folder lists advantages offered by Thermo King equipment, discusses the company's coast-to-coast service facilities, specifies engineering features exclusive with Thermo King, and, through words and pictures, presents 16 series of units.

Each series falls into one of four categories: truck and small trailer units, medium capacity truck and trailer units, high capacity trailer units, and super capacity trailer units. Within these four categories, it was pointed out, Thermo King has more than 125 models to choose from.

Heat Pump Assures Quietness Required for Demonstration of Organs

DAVID SHOOPMAN (right), president of Dade Air Conditioning & Heating Corp., Coral Gables, Fla., dealer for Amana central air conditioning systems, explains some fine points of this 5-ton Amana heat pump to Martin I. Neff (center), president of the House of Organs, and Arthur Charles, vice president. The Amana heat pump heats and cools both an organ display and demonstration room and a rear sales office totaling approximately 2,000 sq ft.

MARTIN I. NEFF, president of the House of Organs, dealer for Allen organs, points to ceiling vent for new central heating and cooling system which uses a 5-ton Amana heat pump. Neff said one reason the system was selected is because its low noise factor would not interfere with sales demonstrations of organs.

Roof-Top Units

RIDGEFIELD, N. J.—A new 24-page brochure describing the application, installation, and specifications of Melco "Roof-Top" year-round air conditioning unit for single-story buildings is available from Melchior, Armstrong, Dessau, Inc., Dept. PR, here.

The units are available in a wide range of capacities for combination heating and cooling; or for heating or cooling only, it was noted. Standard units are designed for direct installation above the space to be conditioned but are also available for various connection combinations to external ducts. Units equipped with steam or hot water coils are also available.

Melco Roof-Top units are completely packaged.

High Pressure Seals

ENGLEWOOD, N. J.—A 16-page master catalog has been published by the A.P.M. Corp., 41 Honeck St. here.

It provides detailed information on the company's line of "Hexseals," explosion and high-pressure seals for switches and shafts; "Seelskrews," "Seelbolts," and "Seelrivets," high-pressure self-sealing fasteners; "Rubrglas - Seels," transparent and flexible switch seals; power connectors with auto-deflecting grounding blades; and other APM products.

Precipitators

DETROIT — A new 12-page illustrated bulletin (No. 2128) describing the new line of American-Standard electrostatic precipitators is now available from American - Standard Industrial Div., Detroit 32.

The bulletin discusses the air pollution problem and how it is solved with electrosatic precipitators. General specifications for the American-Standard line are outlined and illustrated with cutaway photographic artwork.

Electric Heaters

BUFFALO—A deluxe plastic-bound catalog describing 300 models of built-in and portable electric heaters has been prepared for architects, engineers, and electrical contractors by Markel Electric Products, Inc., 143 Seneca St., Buffalo 3.

The 30-page catalog contains descriptions of "Fan-Glo Heetaires," "Thrift Trim Baseboard Heetaires," baseboard heating systems, radiant "Heetaires," Fan-Forced "Heetaires," heavy-duty electric unit heaters, and ceiling "Heetaires."

For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.
Only 25¢ each.

World Trade Corner

NEITHER RAIN NOR SNOW nor any of that kind of stuff can stop the U. S. Post Office, but it can sure slow it down. A good example of the Post Office's efficient, if somewhat belated, service was noted recently by Fedders Corp.'s export department, which received an envelope from the Post Office containing five shipping orders which were mailed in August—six years ago.

The orders were for delivery of Fedders room air conditioners to customers in Manila, Capetown, Delhi, and Aruba. Fedders' export manager, who was not with the firm in 1955, was checking to see if these customers were still waiting for their shipments to arrive.

* * *

FULLY AIR CONDITIONED restaurants and cocktail lounges are features planned for several large bowling centers under construction in Rome and Italy for Bowling Internazionale, Ltd., New York City. The new American corporation was formed "to capitalize on the current Italian craze for bowling," according to Nicholas Marotta, president.

* * *

THE BUDD CO., Philadelphia, has received an order from Brazil for 23 air conditioned, self-propelled rail Diesel cars for use on the Central do Brasil Railroad.

* * *

THE GIENGEN PLANT of the Robert Bosch GmbH, Stuttgart, Germany, recently turned out the 3,000,000th Bosch refrigerator, it has been reported.

* * *

THE FIRST MANAGEMENT CENTER in Europe is scheduled to open for operations in Brussels Sept. 1, according to the International Management Association, foreign arm of the American Management Association.

The center follows the successful operation of IMA's Management Center do Brasil, opened in Sao Paulo last year, it was noted. In the Brussels center, booths, microphone, and amplifier equipment will be provided for simultaneous translation of the sessions in four languages — English, French, German, and Italian.

Some 500 Brazilian executives have received training in Sao Paulo.

* * *

THE NEW 14,000-SQ FT A. O. Smith International S. A. plant at Stratford, Ont., Can., has been completed and formally dedicated the company announced. AOSSA is a subsidiary of A. O. Smith Corp., Milwaukee.

D. J. O'Connell, president of A. O. Smith International, noted that manufacturing operations at this time will center on the company's Burkay commercial water heater. O'Connell pointed out that A. O. Smith has been selling Burkay water heaters in the Canadian market for many years on an export basis.

Service Auto Air Conditioners QUICKLY . . . PROFITABLY

This new manual shows you immediately the model year of unit; names, numbers, and list prices of parts; time allowance and labor rate for several hundred different models produced 1957 through 1960.

You can make an accurate estimate of costs in a hurry, order the exact parts needed if not in stock, and get the repair job done quickly without wasting valuable time.

This book also shows which compressors and clutches are interchangeable on many makes and models. This lets you service a much greater variety of makes with little increase in inventory.

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Cadillac
Chevrolet
Oldsmobile
Pontiac
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DeSoto
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Studebaker

Independents
A.R.A.
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PARTS AND LABOR RATE BOOK

by R. V. Anderson
(Inventor of Mark IV)

252 pages, 8½ by 11
Illustrated, $30

Exploded views of evaporator assemblies produced by Independents show each part with number. Also listed are all makes and models of cars for which Independents made units during 1957-'60; major components and part numbers, refrigerant charges. Compressor and clutch assemblies are cross-referenced. Similar data is listed for Auto Manufacturers.

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Noise Problem In Detroit--

(Continued from Page 1, Col. 4)

mers, we have received an average of 10 to 12 complaints from homeowners concerning what they believe to be excessive noise coming from a neighbor's air conditioning system," explains E. J. Moranty of the bureau. "In most of these instances. we have issued a warning and the offending party has taken some steps such as adding some sort of noise-deadening auxiliaries, or agreeing not to operate the system after 11 p.m."

Basis of Complaint

What is the basis of the "right to complain" about such noise? According to Moranty, courts have established that anything which causes "loud and disturbing noises" that tend to "disturb the homeowner's right to peaceful and tranquil enjoyment of his home" fall into the area of a public nuisance and thus become subject to official action.

"In fact, we have entered into some private court cases on this subject as interested observers," Moranty declared. "One of them that comes to mind seems to be a good example of why the industry should be giving a lot of thought to this.

"In this particular case the condensing unit section was mounted on a rear porch, and the reverberation effect probably was a factor. The case went to court and the owner of the air conditioning system was found guilty of maintaining a public nuisance. He was given the opportunity of correcting the situation, which he tried to do. However, it did not satisfy his neighbor, who then got a further court order restraining use of the air conditioning system so long as it produced noises which he found disturbing.

"Upshot of the matter was that the owner of the air conditioning system stopped using it, and has been in litigation with the manufacturer over payment for the system. Certainly this sort of thing is not going to help the sale of air conditioning."

'Volume Justifies Bureau's Action'

Moranty believes that the number of central residential systems now being installed, and the number of complaints of noise from such systems, justifies the bureau giving consideration to the drafting of an ordinance establishing standards for installations designed to eliminate the noise problem.

"There is already an ordinance which takes care of part of the problem, although I doubt if many contractors are familiar with it," says the Detroit official. "It states in effect that the installation of any machinery alongside a private home is in effect encroachment on the adjoining property, and thus illegal. This makes it illegal to install a condensing unit section alongside a house, which the industry doesn't approve anyway, and this should prove helpful.

"However, we at the bureau still believe that there may be need for an ordinance which will establish a standard of noise level at the neighbor's lot line which is not to be exceeded.

"A logical standard would probably be one based on a decibel level, but very frankly we have tried to get some information on the subject, mainly from individual manufacturers, and have been singularly unsuccessful. We would much prefer the help and advice of the industry on this matter, but if we have to develop our own standards—we can and will."

Not too much difficulty is encountered with commercial and industrial installations, Moranty states. Some special cases have concerned the installation, say, of a water cooling tower close to hotel guest rooms. In such instances the owner of the system realizes that he can easily be guilty of supporting a public nuisance, and will makes changes such as increasing the number of fan blades or erecting a baffle wall to reduce the noise level.

Consumer Durable Goods Sales Spurt Reported by a Number of Manufacturers

DETROIT—Signs of general improvement in sales of consumer durable goods came to light in a rash of "good news" reports by manufacturers of major appliances in the past week.

Frigidaire Div., General Motors, reported that it was recalling 175 employes to work immediately, with Herman Lehman, GM vice president and Frigidaire general manager stating that the decision to increase the work force is based on "increased demand for our products." He said that sales in June, and thus far in July, have been somewhat better than anticipated.

June sales of Kelvinator major appliances were up 3.7% over the same month of last year, marking the third consecutive monthly sales increases, reported H. L. Travis, vice president. So far this year, the appliance division of American Motors has reported four out of six months in which sales were higher than the corresponding months of 1960.

A 23% boost in laundry equipment production schedules was called for by Judson Sayre, president, Norge Div., Borg-Warner Corp. Sayre predicted that by Fall, laundry equipment sales would be running higher than any time in the past three years.

Gibson Refrigerator Div., Hupp Corp., shipments of refrigerators to distributors in June hit a 19 months high, being the best since the steel strike shortage nearly two years ago, said W. C. Conley, sales vice president. Gibson also announced that it was cutting its annual production - inventory vacation from the usual four or six weeks to two weeks, in order to meet the order backlog.

Research Products Adds Ludkey to Sales Staff

MADISON, Wis. — Research Products Corp., manufacturer of air filters and humidifiers, has announced the addition of Lloyd Ludkey to its sales staff as district salesman.

Ludkey, who has been associated with the company for the past several months in the home office here, will serve the territory of northeast Ohio, including Cleveland, Youngstown, Akron, and Canton. He will headquarter in Cleveland.

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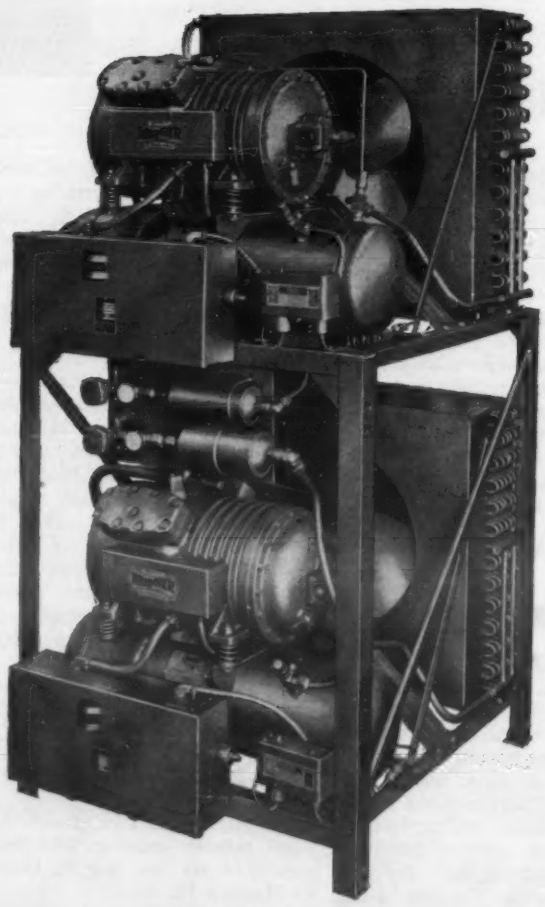

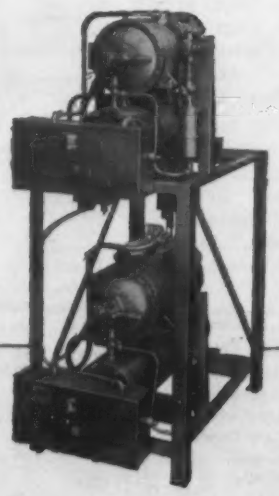

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